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Science in General Education at Mid-Century

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The Present Status of Science Training and Recommendations for Broadening It

DISSATISFACTION with the science training afforded non-science majors in the usual elementary courses first became acute in the 1920's. At Chicago, Colgate, and a few other institutions, experiments were undertaken in an effort to give the non-science major some knowledge of science without requiring him to memorize the details and practice the techniques required of science majors. These experiments took several forms: novel methods of presenting lectures and conducting laboratories, survey courses covering several sciences, watered-down versions of the orthodox science courses, and, a little later, courses which selected a few blocks of subject-matter for rigorous treatment. In the 1930's these experiments continued and spread to other institutions. In the 1940's the spread was accelerated; "general education" became a catchword, and much thought was given in all sections of the country to the place of science in general-education programs. Now at mid-century, as a result of these years of experimentation, ideas about such science courses have sufficiently crystallized so that a review of their present status will be worth while. This article will attempt to sort out questions regarding general-science courses on which widespread agreement has been reached, and questions on which active disagreement persists.

Among the items on which agreement has been reached, we may start with two general propositions: first, science is a necessary part of general education; and second, for most non-science majors a different kind of course is needed from the specialized courses provided in the various science departments. These statements are almost articles of faith among

teachers of general-science courses; but their validity is independently attested by the continuing spread of general courses and by the steady decrease in the opposition, at one time open and vociferous, from conservative science departments.

Three items of agreement can be grouped as pertaining to course content. First, some emphasis on the scientific method and scientific attitude is desirable. Second, the "block-and-gap" approach is better than the superficial survey or the diluted orthodox science course. "Block-and-gap," a term popularized by Eric Rogers at Princeton, implies the drastic limitation of material to a few "blocks" which can be studied intensively, the gaps between blocks being bridged only by enough discussion to keep the course coherent. Third, the physical sciences are better taught separately from the biological sciences, or by separate men in different terms of the same course.

Four more areas of agreement refer to methods of instruction. First, the guidance of a lecture section or a discussion section should be given to one man for an entire term, rather than divided among several men. The greater continuity of presentation outweighs the disadvantage that the one man may not be well acquainted with all the subjects covered. Second, small discussion sections are highly desirable to supplement or to entirely supplant lecture sections. Repeatedly, it has been demonstrated that active participation by students, possible only in small groups, is essential to effective learning of scientific material. Third, individual laboratory or field experience is very desirable but not universally considered indispensable. Fourth, movies and other visual aids to instruction are helpful for some subjects, but must be used with care. Visual aids are valuable where the mechanics of a process are difficult to demonstrate, as in the motions of the planets or of molecules in a gas; wherever possible, however, lecture table demonstrations or laboratory experiments are more effective.

Essential agreement, therefore, has been reached on many important questions connected with general-science courses. Among these questions are several which were points of lively debate only a few years ago.

ALTHOUGH great diversity remains in the teaching methods and subject-matter of general-science courses, nevertheless the significant questions on which disagreement persists are mostly of secondary importance. Many are questions that will never be finally settled, since they are matters of individual opinion or questions whose solution depends on facilities available at different institutions. It is perhaps a sign of maturity in the development of general-science courses that most arguments now are about this kind of question; but it is likewise a sign of continuing vigor that discussions of these questions are still frequent and heated.

Three questions of administration remain conspicuously unsettled. First, what is the best way to secure teaching staffs for general-science courses? This is a very important question, an exception to the generalization in the preceding paragraph that disagreement is largely confined to secondary matters. It involves both the problem of how prospective general-science teachers should be trained and the

problem of providing sufficient inducement in salary and academic prestige to counterbalance the attractions of teaching positions in the science departments. The second administrative question concerns general science as an academic requirement: should all students take such a course (or courses), or should science majors be excluded and non-scientists be given the option of taking one of the conventional introductory courses? Third, should the general-science program be largely limited to Freshmen and Sophomores, or should more advanced general courses in science be offered to upperclassmen as well?

Three items of disagreement concern subject-matter. The first goes back to scientific method: although acquaintance with scientific method is universally thought desirable, there remain doubts as to whether it can be taught effectively in elementary courses, and some question as to the best way to attempt such teaching. Second is the question of how much mathematics, history of science, philosophy of science, and practical applications of science should be included. Third is the question of whether subject-matter should be largely drawn from a single science or from several sciences.

Three more areas of disagreement relate to questions of teaching methods. First is the question of the relative emphasis to be placed on lectures, laboratory demonstrations, discussion groups, visual aids, and original writings. Second is the much-debated question about the relative merits of objective versus essay examinations, often answered by a recommendation that judicious use of both is preferable to either alone. Third is the question of how and to what extent the success of general-education courses in attaining specific goals can be measured. This is a relatively new question, on which active research is now in progress.

THIS brief listing of areas of agreement and disagreement shows substantial progress in the teaching of science as a part of general education. Conservative objections to general-science courses have been answered; the principal questions of teaching methods and subject-matter have been settled. Even the remaining items of disagreement reflect progress, since disagreement now centers on matters about which there will probably always be differences of opinion. These evidences of progress, however, give no excuse for complacency; successful as general-science courses have become, it remains obvious that too many educated people in this country know precious little about scientific facts, methods, or attitudes. So we face the old question of how matters can be improved, how general-science courses can be altered in order to make understanding and appreciation of science more widespread. My suggested answers will involve chiefly some shifts of emphasis, but no major alterations in the subject-matter and teaching methods upon which, as we have seen, there is now pretty general agreement.

To discuss possible directions for improvement, I go back to a thesis which is commonly taken for granted: that science courses have a necessary and important rôle in any general-education program. My intention is not to question this thesis but to try

to make explicit the reasons why it is so widely accepted.

When a student questions the importance of science in his own personal general-education program, we commonly try to reassure him by pointing out how large a rôle science plays in the daily lives of ordinary Americans. By such an answer we do not mean that he should become intimately acquainted with the multitudinous gadgets with which science has surrounded him, nor that he should be able to do scientific work himself, nor that he should read scientific articles more abstruse than newspaper and magazine reports. What we do mean is that throughout his life he will be hearing about new inventions and new theories; that as a voter and taxpayer he will help to decide such currently important questions as whether research should be government-supported and whether some kinds of research should be shrouded in secrecy; that as a business man or public official he may be called upon to allocate funds for research, to recommend for or against hiring a scientist, or to discuss problems with a scientist; that he will find his thinking in economics, politics, philosophy, and religion subtly but powerfully influenced by science; and that he will hear much about possible applications of the scientific method to economic and social questions. Because science will influence his life in so many diverse ways, he needs to know something of its methods, its goals, its capabilities, and its limitations. In brief, he should have an intelligent appreciation of science, much as he needs an appreciation of nature or art or statesmanship.

Now an answer like this is quite valid, and provides considerable justification for the inclusion of science in a general-science program. Surely science is demonstrably close to our daily lives. But in modern education, with so many interests preying upon a student's time, can we be sure that science is justified in this way over and above several other subjects? Take law, for instance: Is not legal procedure more important in the lives of many people than science? Would not some acquaintance with the principles of jurisprudence, gained through a general-education course in law, be at least as valuable as acquaintance with science? Or consider football: surely football enters more intensely into the lives of most Americans than science does, so why should not general education include a course in the principles of football? Another possibility is medicine: Would not an elementary course in the treatment of injury and disease be of more use to the average person than a course in science? To all of these subjects there are obvious objections, of course; but it will be worth while to formulate the objections explicitly, since they will enable us to see more clearly both the advantages of science in a general-education program and some aspects of science which need emphasis.

LAWYERS to whom I have spoken react to the suggestion that law might be suitable subject-matter for general education with the objection that their subject requires more maturity and more educational background than we can expect of a first-year student. Whatever could be put into a freshman course would

be so diluted and so oversimplified that students would gain a pretty useless if not downright false impression of legal procedures. By contrast, science is a subject which can be made understandable to beginning students. Complicated as some branches of science may be, still many topics can be adapted for freshman courses with little sacrifice of rigor or depth. In my opinion, the teachability of science is one of its cardinal advantages in a general-education program.

From this I infer that any science course should make one of its primary aims the careful, painstaking teaching of basic facts and principles. Certainly, the history, philosophy, and methods of science are important also, but overemphasis on these makes science, like law, a subject requiring too much maturity and background for elementary students. Unless we keep in mind that teachability on an elementary level is one of the great assets of science, and accordingly stress rigorous instruction in fundamentals, science has little more justification than law in the general education program.

AGAINST football we must find objections on different grounds, since football is patently much easier to teach elementary students than is any kind of science. The important consideration here is lack of intellectual content. Easy as it might be to teach, useful as detailed knowledge of the game might be in everyday life, it would be out of place in a general-education curriculum because it has no significant logical structure, no depth, no important historical relationships with other fields of human activity. Science, by contrast, is one of the great intellectual achievements of our Western culture. It has form, structure, depth, relevance to history, and complex interrelationships with the rest of modern thought. This, of course, is another important reason why science deserves an honored place in general-education programs. And in my mind we fail of our purpose if this aspect of science is not impressed on our students.

To present science as a unified, meaningful branch of knowledge requires, I believe, these two things: first, that the development of science be placed in its proper historical context; and second, that some conception be given of the whole broad scope of science. To give science historical perspective does not require that all parts of the subject need be presented historically, or even that the history of science should receive strong emphasis; some topics, however, can be naturally and profitably developed from a historical viewpoint, and when so developed give students at least a slight acquaintance with the place of scientific concepts in the history of thought. More controversial is the contention that an elementary course should present the whole range of scientific ideas, since it is currently fashionable to disparage "survey" courses and to admire "block-and-gap" courses. Now it is perfectly obvious that some selection of "blocks" is necessary; no elementary course could attempt to do justice to all branches of science without becoming a hodgepodge of superficialities. There can be no reasonable arguments against the block-and-gap idea, but I would contend that an important consideration is the content omitted in the gaps.

Linkage between blocks can be weak or strong, superficial or meaningful; if students are to get a clear concept of science, the links must be strong enough and significant enough to show the place of the blocks in the whole structure of the subject. If science is presented as no more than a loosely knit collection of unrelated blocks, it seems to me difficult to justify the inclusion of science rather than football in a general-education program.

IF WE turn to the third subject selected for comparison with science, and inquire of a doctor whether elementary medicine should be made part of the general-education program, the answer will be an emphatic and horrified "No." Preventive hygiene is all right, the doctor will assure us, but the diagnosis and treatment of disease are subjects about which a little knowledge is a very dangerous thing. Certainly medicine could be easily taught to Freshmen; it is a creation of human intellect and experience as impressive as science; but it has the fatal objection that students who had learned a very little about diagnosis and treatment would thereafter be a menace both to themselves and to their acquaintances. Ordinarily we feel that no such objection attaches to science, that any knowledge of science is better than none at all, and that therefore we have still another reason for the inclusion of science in general education. On second thought, however, is this conclusion justified? Can we be so sure that a little knowledge of science is not a dangerous thing? Many people with only superficial training in science have grossly mistaken attitudes toward it, and some of these attitudes, it seems to me, have a good deal of potential danger.

To make the discussion specific, I shall single out three attitudes toward science and scientists which I regard as particularly dangerous. One holds that the scientist is the modern Mephistopheles, the personification of evil in our troubled world. A second regards the scientist as an omniscient oracle, a man who knows the solution to all difficulties. The third treats the scientist as the high priest of a new religion. These three attitudes, in varying degrees of exaggeration, are widespread in this country.

I think, for example, of a Scottish friend of mine, as able and intelligent as any man I know, to whom science is complete anathema. He was brought up on Shakespeare, the Bible, and the classics; his only firsthand acquaintance with science was a brief course in secondary school which he did not like. To him scientists are responsible for most of our present-day ills; they have taken away the beauty and the wonder of the world, they have made life too fast and too complicated, they have undermined ethics and morality, and now they have invented a bomb which seems likely to obliterate the whole human race. Did the Devil ever, in any previous guise, accomplish so much evil? It is, of course, a semi-plausible point of view, with enough half-truths to give it wide appeal among those with a limited knowledge of science. It is a dangerous point of view because it is antagonistic to a very powerful force in the modern world, a force which can be restrained from evil only by wise and understanding guidance, not by emotional opposition.

The fallacy of this concept of the scientist as a modern Mephistopheles is the mistaken identification of the scientist with those who apply his results. The scientist himself is interested primarily in finding out all he can about the objective world around him; the use made of his findings depends on the ingenuity and politics and morality of others. Those who blame science for the complexity, the spiritual poverty, and the dangers of the modern world are simply hunting a convenient scapegoat. The true position of science in modern life, the distinction between scientific work as such and the uses that are made of it, will be important ideas to emphasize in any general-science course if my Scottish friend is not to win converts among our students.

Equally mistaken and equally dangerous is the attitude which regards the scientist as an omniscient oracle. I recall, for example, a colonel whom I met a couple of years ago on the island of Iwo Jima: he had asked me to come to Iwo to see whether a volcano on the island was about to erupt, and seemed completely incredulous when I told him that there is no reliable way of predicting whether or not an eruption is imminent. Here was a scientist ignorant about so simple a matter as the behavior of a volcano! It was inconceivable. A man like this colonel has somehow gained a grossly exaggerated respect for science; knowing little about it, he has no conception of where science can aid him and where it cannot. If science is to be used to best advantage for the welfare of our country and of mankind, it is essential that general-science courses teach future Army officers, business men, politicians, journalists, and housewives enough about the subject so that they can talk intelligently with scientists and have some idea of their capabilities.

The colonel was expecting too much of science in its own proper objective sphere; still more misguided are those who think of science as a panacea for problems in human relations. One of the young men who worked with me this past summer remarked in a campfire bull session that he did not understand why all murderers are not put to death. In a murder trial, according to his reasoning, the question at issue is simply, is the man guilty or is he not; the question should be capable of solution by methods akin to scientific inquiry; once it is answered, the prisoner should be immediately hanged or immediately turned loose. As simple as that—just like settling the question of whether a solution is acidic or basic by dropping in a piece of litmus paper. This man is young, but he is old enough and educated enough to know better. His attitude expressed in extreme form a notion widely prevalent among both scientists and non-scientists, that the methods of science can be used to solve problems where questions of right or wrong, good or evil, just or unjust, are paramount. In general-science courses we are enthusiastic, and justifiably so, in pointing out the extraordinary power of the scientific method for solving objective problems; equally important, it seems to me, is emphasis on the limitations of scientific procedures in areas that involve subjective judgments. Otherwise we lay ourselves open to the charge which would be leveled against anyone who tried to teach a general-education course in medicine, that

we are giving future citizens a powerful tool without instructing them in its use or warning them of its dangers.

The third mistaken attitude about science is the view that a scientist plays the rôle of high priest in a new religion—seldom expressed so baldly, but nevertheless implicit in much writing and conversation. A Senior in one of my classes is an excellent example: he told me recently that he regards belief in God as an old-fashioned superstition outmoded by modern science, that he is not concerned about saving his soul since science has proved that his soul does not exist, that the only sound basis for morality is the scientifically objective criterion of which course of action will bring the most pleasure, that his principal object in life is to derive as much comfort and as much fun as possible from the gadgets that science has invented for him. His views are extreme, and certainly they are conditioned by his youthfulness, but ideas of this same general pattern are common among those who know only a dangerous minimum about science. Here again, the fallacy is the misapplication of scientific methods and attitudes in fields where they have no place.

To regard science as a manifestation of evil; to regard it as an oracle to which all questions, both objective and subjective, may be appealed for an answer; to regard it as a near-deity or a criterion for moral law: these are the dangerous results of too little knowledge. Unless such attitudes can be effectively combated in general-science courses, scientists had best join medical men in a belief that knowledge of their subject should be reserved for those willing to devote their lives to it.

IN SUMMARY, substantial progress has been made during the past quarter-century in the development of science courses geared to a general-education program. Many important questions about such courses have been settled and points still at issue are for the most part secondary. Nevertheless, examination of basic objectives suggests certain directions in which these courses should be strengthened or modified. To me, such an examination leads to the conclusions that careful, rigorous teaching of elementary facts and principles should not be slighted; that science must be presented as a great intellectual adventure in its proper historical perspective, rather than as isolated blocks of knowledge; and that the capabilities and limitations of science with respect to other activities of the modern world should be repeatedly emphasized. In these ways we take advantage of the teachability of science, we give it the necessary imaginative and intellectual content to justify a place in the general-education program, and we insure ourselves against the potentially dangerous consequences of too little knowledge.

Illiteracy at the University Level

By EUGENE R. PURPUS

The Appalling Lack of Real Ability to Read with Comprehension and Write with Precision

THE American public has often demonstrated its susceptibility to utopian platitudes. It has been willfully, even anxiously, mesmerized by promises of great gain with little or no effort. It has eagerly embraced the vision of "a chicken in every pot," "every man a king," "two cars in every garage," "thirty dollars every Thursday" (though in this last instance, a rise in cost of living will necessitate a new alliteration). In many of these schemes which promise great rewards with no individual effort, the public has been sadly disillusioned. But in one of these dreams—one which has not yet been reduced to the formula of a catch phrase, but which might well go down in history under the banner "A college degree for every child"—the disillusionment has not yet come. Perhaps it never will if we can progressively delude ourselves so that we do not notice that the goal aimed at is a far different thing from the goal achieved. For it is obvious even now that the phrase "college degree" is fast losing both the denotation and the connotations which the words once held. We are steadily moving toward a situation in which the words *college education* will be synonymous with "four years in residence at an institution beyond high school."

One of the major goals of education in the United States is the elimination of illiteracy, and statistics seem to show that illiteracy is on the decline. Most Americans would insist that they do not know anyone who is illiterate—with the exception of small children who are not yet supposed to be able to read and write. But the blunt truth is that a very large part of the public is in fact illiterate, and that the incidence of real illiteracy in this country is rapidly rising. A more shocking fact is that an increasing number of these illiterates are young people who enter and even graduate from our colleges and universities.

This charge is not true, of course, if one uses the term *literate* to mean *capable of recognizing letters in sequence and of combining letters into recognizable words.* Such a definition, however, is thoroughly unrealistic; for such an achievement is in itself of little value. The charge is true if one accepts a meaningful definition of *literate* as meaning *able to read with comprehension and to write coherently.* The latter definition of illiterates would obviously include all persons who, despite an ability to see and even pronounce words, are incapable of understanding simple expository writing; and those who, despite the ability to write their names and even

to write consecutive words, are incapable of communicating their thoughts in intelligible written form. On the basis of this understanding of illiteracy, one will have to class as illiterate many of the young persons who are today enrolled in colleges and universities. If one extends the definition to include those who cannot read effectively or write with technical accuracy, the group of illiterates will include a tremendously larger number of these students.

This statement of the situation will come as no surprise to those who teach at the university level, for many of them are painfully aware of deficiencies in our educational system. The university professor frequently finds himself in an embarrassing position with friends who have children in our elementary public schools. Those of his friends who are not simply indifferent to their children's training often ask, "Why isn't my child being taught anything? Don't schools do anything but play games any more?" If the parents are conscientious enough to try to do some teaching on their own, they are too often asked politely (and sometimes told very firmly) not to interfere with the child's routine. They are told to "wait for a meaningful learning situation," to wait until the child has demonstrated "a readiness" to learn some specific thing. In flat truth, they are told to wait until the child's own disgust with learning nothing emerges to the point of forcing his teachers to co-operate with him and give him some assistance. The unfortunate thing, of course, is that most children do not realize what they are missing, do not have any way of understanding what they will later be expected to know. Most of them rightfully expect that their school will teach them what society thinks they ought to know. Children rarely develop entirely on their own a full understanding of what they will need to know in later life. Even those who do, may discover that twelve years or so of inactivity, waiting, undisciplined play, inattention to exactness, and lack of purposeful guidance has stultified their minds and rendered them incapable of doing serious work.

It is not easy for the university professor to explain that he has little or nothing to do with the elementary- and secondary-school systems, and that he himself is busily trying to find a private school where his own children may get a real education. He has a hard time explaining to his friend that in most universities the College of Education is an entity unto itself and is very frequently preparing teachers in a way which is unsatisfactory, if not actually repugnant, to a very large part of the academic faculty. The friends are usually shocked to discover, for example, that the university English department often has no control over, and sometimes not even a voice in, the preparation of high-school English teachers.

I HAVE been considering the preparatory stages before university work. Let me turn now to the professor's friends who are employers of college graduates—the industrialists, business and professional men. In these relationships, too, the professor finds moments of uneasiness. Why, he is asked, do you (and in personal realtionships the personal pronoun is often used to indicate the whole university) send out graduates who cannot even read and write with any degree of accuracy? Why do you let

these people through with only a smattering of factual knowledge in specific fields, without any ability to co-ordinate and use their isolated pieces of information? Again, the answer is not easy. Can the professor be content with the reply that he has no responsibility for anything beyond testing the student's knowledge in a given course? Even if he tries this feeble excuse, he is faced with another obvious question: Why did he pass a student who obviously was not equipped to use the English language accurately? How can he pass a student who cannot spell, who cannot read simple written directions, who cannot communicate intelligibly in writing, who cannot organize and present the ideas he does seem to have? Can the professor with a clear conscience answer that he had no way of testing the student's ability to read and write, that he felt compelled by the pressure of his teaching-load to give nothing but multiple-choice or true-false examinations that could be marked mechanically? It is patently true that many classes in the university—perhaps even the majority—actually do not require any writing of the student. Still others require no reading beyond the ability to record mentally and to memorize uncoordinated facts. To cite a specific example, many students pass history courses without understanding any of the relationships among peoples, societies, and events; they can manage to get by simply by memorizing names, dates, places. In fact, the purely mechanical, completely objective examinations which many of them face as the only test of their knowledge are inherently so constructed as to leave them no opportunity to demonstrate their real comprehension of the material covered.

Employers may then go on to ask, "But they all have to pass English composition, don't they?" And the answer here is least easy of all. The aim of a course in English composition is presumably to improve the student's knowledge of the language and his ability to read and to use the language effectively in written communication. Certainly he is given regular writing assignments, and the examinations are for the most part essay-type (at least in the latter part of the freshman course). How does it happen, then, that many students fulfill this requirement without demonstrating a satisfactory ability to understand and to use the language? One answer is that most English departments have been faced with extremely large numbers of ill-prepared students and have had to make an unconscious, if not actually a conscious, decision. They could conceivably reject as unsatisfactory a very large majority of the entering Freshmen. But this course of action is difficult for at least two reasons: the student himself is not primarily to blame for his inadequacy, and the one department which ought to require an ability to read and write finds it difficult to be completely out of step with the others that have no such requirement. When the student has practical evidence that any real ability to read and write is not considered essential in most of his other courses, he is going to find it difficult to understand what all the fuss is about. The net consequence has been a gradual lowering of standards in English, a greater pressure to let students pass with an almost negligible ability to perform the work which is required of them.

The existence of this practical and effectual illiteracy at the university level presents a great many problems. A brief commentary upon a few of them will serve to illustrate the gravity of the problem. To start at the bottom, little need be said about those students who do not have and who do not rapidly develop even the slightest ability to read with comprehension and to write intelligibly. Many of these are excluded from some colleges and universities on the basis of entrance examinations; but many of them manage to gain entrance on the basis of highly misleading records from high school. Such students are usually weeded out by the end of the freshman year; but in the meantime they have added an expensive burden to the university budget, they have detracted from the amount of useful work which can be done in their classes, their very presence has served to make mediocre students look good by comparison, and in the end they must feel a sense of frustration at not being able to meet the demands of a situation which they have been encouraged to believe could be mastered by any young person with their background.

At a slightly higher level are those who manage at least to stay in school, but whose learning process is drastically handicapped by their limited ability to read with comprehension and to write with intelligibility. Truly effective utilization of the time which these students spend in college is virtually impossible. We must recognize that a disciplined ability to read and write is the single tool which is indispensable to every student who is to derive the potential benefit of higher education. And in their later professional or vocational life, a deficiency in this medium causes an almost insurmountable barrier to an effective application of whatever factual knowledge these students have managed to acquire.

Something must also be said about those few students who enter the university with a real ability to read and write. At this level, we are concerned with those who potentially, and even probably, will be the leaders of our society. For them, of course, we should offer the greatest encouragement and stimulation. Unfortunately, in most universities such students are rarely given the stimulus to do ever better work; the conduct of the class is frequently geared to the lowest common denominator (or at best to the median), and the capable student is sorely tempted not to extend and develop himself beyond the easy standard which, by comparison with the rest of the class, will be sufficient for a mark of *A*.

Virtually no one questions the desirability of possessing a real and effective ability to read and write; and such an achievement ought to be the very basis of our educational system. The degree to which this ability is attained very early in one's educational life is a very reliable criterion by which to judge ability to be educated effectively. However, the plain fact remains that countless universities and colleges are each year giving degrees to young men and women either who do not have this ability at all or who have it to a perilously limited extent.

THE causes of this glaring weakness in our educational system are not difficult to find. First, a large number of our elementary and secondary schools are dedicated to the

belief that discipline of any kind may thwart personality development or that it may result in psychoses of some kind in the child. Accordingly, any discipline of the mind is carefully avoided, and the student is encouraged to believe that he is doing satisfactory work. As an absurd example, in one class in a university high school no student is given any mark lower than *B*, on the theory that a lower mark might develop in him an inferiority complex and might even discourage him! (How unfortunate it is that life is seldom so considerate!) This basic trend in educational systems is, of course, very largely attributable to the indifference of many parents, who apparently ask no more of a school than that it keep the children out of their way for a few hours each day.

Second, the same philosophy places primary emphasis upon the personality of the student as a basis for measuring accomplishment—not upon his achievement in any objectively measurable field. As a typical example, many high-school teachers require the preparation of book reports and then evaluate them on the basis of the interest of the student's emotional reaction—not on the basis of the student's understanding of the subject-matter, aims, and techniques of the book. As an equally meaningless alternative, students are asked to copy down reviews written by other people, without either digesting or even understanding the reviews themselves—much less the book.

Third, despite the profusion of educational jargon about lofty objectives, many high-school students are simply never required to demonstrate an ability to read with understanding or to explain their ideas in accurate and coherent writing. As a result, many students come to college without ever having been required to do an original piece of writing or to demonstrate an ability to read with comprehension.

Fourth, very few students are ever even introduced to the idea that the ability to read with comprehension and to write with exactness is a fundamentally important part of any educated person's equipment. The negative philosophy of using high marks or even simple promotion to "encourage" students is not only totally unrealistic but actually harmful. The really painful part of such a situation is that many of these students take it for granted that they can read and write. They are surprised to learn that a capacity for seeing, recognizing, and reproducing individual words is a quite different thing from being able to take effective advantage of the vast treasury of knowledge which is stored up in our written heritage.

Once the situation is recognized for what it is, the need for a solution is self-evident. On a purely monetary level, the public is devoting tremendous amounts of money (either through taxes or through direct tuition and other incidental expenses) to achieve a goal which we are far from reaching. The waste is immediately apparent when we consider the thousands upon thousands of college entrants who each year give up (or are asked to give up) work for which they have not been prepared or—and this is perhaps more important—for which they have no real desire or need. The waste is less apparent in the cases of those who graduate without any real increase in ability. Every time the university gives the stamp of approval (that is, a degree) to a

student who does not effectually have the ability to read and write, that institution is betraying its trust. And as we go further and further toward the goal of "a college education" for every boy and girl, the actual result becomes increasingly meaningless and worthless. The price tag, however, remains the same or is higher for the less valuable "merchandise." If we really want a society in which, for example, a major oil company requires a college degree as a prerequisite for all of its filling-station attendants, then we should be honest enough to admit an obvious fact: the degree does not mean that its holder is more nearly educated; it means only that he has spent four years beyond high school in residence in what we still call a college or university. The public may well wish to continue to foot the bill for this kind of activity; but it ought not to continue suffering any delusions about what it is doing.

THERE is, however, a much more insidious and dangerous result of the present illiteracy of so many of our students in institutions of higher learning: the confusion and frustration of the individual. Let us consider the plight of the high-school student who has been encouraged to believe that he can read and write—only to be dismissed from the university because he obviously cannot. He finds himself in a frustrating dilemma: he has been conditioned to believe that his work has been satisfactory and that mere passage of time is sufficient for promotion in our educational system; and yet he is suddenly told that he is unfit for the college degree which his society suggests every young person ought to have. Each year our high schools graduate countless numbers of students who have never done any original writing and who have never been expected (much less required) to demonstrate any real ability to read. When they are confronted with the blunt requirement that they demonstrate an ability to grasp ideas and to explain what is said in a piece of writing, they are sometimes outraged that they should be expected to do any such thing. If they progress to the point of seeing the desirability of such an accomplishment, they are often entirely unable to change the habits acquired through years of bad training. This difficulty is readily understandable. It would not be easy to eradicate ingrained habits of thinking that personality and emotional reactions are more important than annoying things such as the structure of the language, spelling, punctuation, precision in choice of words, accuracy in understanding ideas, discipline in thinking. In the end, many students who potentially could have been taught to read and write effectively simply retreat in bewilderment or bitterness. They may take the protective course of concluding that the insurmountable requirements of the university are ridiculous and unrealistic, or they may conclude that they simply do not have enough "brains" to do the work. Certainly the former course of action may make easier the job of living with oneself. But neither course gives the student any real comprehension of what has happened to him. Unfortunately, few of these students who fail to get through the university realize that the basic ability to read and write effectively is not only a just requirement but an indispensable one. And probably still fewer realize that, given the proper training at an early

age and an insistence upon their exercising that training, most of them would have developed their potentialities for meeting this requirement.

This sense of confusion and frustration is not limited to those who fall short of achieving a college degree. Many of those who graduate are confused, resentful, and disillusioned when their employers expect them to read and write with a minimum degree of precision. Such graduates find that in the business, industrial, and professional worlds one must do better than the rough guess, the near miss, the indicative suggestion. They are confronted with the necessity for learning at this late date the value of accuracy and precision in reading and writing. Some of them, of course, develop this ability; others may simply wonder what happened to them when they find themselves either looking for a new job or at least disappointed in the anticipated promotion.

I do not mean to imply that even the majority of college and university students fall within the group with which I am primarily concerned here. But it is obvious that an appallingly large number of them do. And until some solution for the situation is found, we shall remain a society in which a very great many individuals are incapable of achieving even a fraction of their potential. More seriously, we shall find ourselves with a dearth of real leaders in business, in education, in statesmanship, in religion, in morality—in every aspect of human life.

IT WOULD be unfair to paint such a harrowing picture of our present school system without suggesting some practical and effective solutions to the problem. Let me start then with the suggestion that we try every possible means to remove the completely unrealistic and potentially dangerous concept that "a college education" is or ought to be the goal of every American boy or girl. It is obvious that if such a goal were achieved, the necessary reductions in the standard of what a real college education is would be so great that the goal would no longer be the one which was aimed at. In fact, achievement of such a goal would in effect do little more than to postpone for four years the date on which the individual would have to start finding himself in his society. There is a very real danger that we shall go on extending the number of years during which a child and young adult has nothing to do but slide along doing haphazard and slipshod work under the guise of being educated.

Let us try to spread an understanding that in a society such as ours there is an honorable and profitable place for varied levels and types of educational training; that, in fact, our society would not exist effectively if all people were given the same training or even the same type and amount of training. Let us stress that equality of opportunity does not mean that everyone must be compelled to undergo any one specific type of educational training. Such compulsion is typical of totalitarianism, not democracy. The happiness of the individual in a democracy depends upon his finding the right spot for the use of his particular abilities and interests, not upon his being regimented into meeting one artificially imposed standard set up for all people.

It is of course desirable that as many of our citizens as possible have some basic understanding of the major fields of human knowledge: the

humanities, the social sciences, and the physical sciences. But there is no conceivable reason why this basic understanding should be put off until the student is of college age. In fact, such an age is far too late for this training. From the very beginning of formal education we should try to achieve a disciplined study of, and a respect for accuracy in the arts of, reading and writing. Moreover, we should stress the importance—even the utility—of a liberal-arts education as the very basis of all understanding of the human being, his potentialities, his opportunities, and his accomplishments. To suggest that such a plan is beyond the scope of the elementary and secondary education of our children is to assume that this generation alone, out of all history, is deficient in capacity to learn. Let us, therefore, revise our elementary and secondary schools so that they give their students the basic tools of learning and at least a basic understanding of the major fields of human knowledge.

Beyond this basic education for all children, we are confronted with the problem of additional training for those types of work which require further specialized training. The universities and colleges which now exist are equipped to offer the necessary training for professions of all kinds. Our real need is for the establishment of more and better trade and vocational schools for the specialized training necessary in the varied vocations of our industrial society.

Most of the purely trade and vocational training in this country is done now by the "fringe" elements in the educational system: the private business and industrial schools, the industrial in-plant training departments, the evening-school divisions of the high schools, and other similar agencies. Much of the work is done on a casual, part-time, or excessively concentrated basis. Moreover, very few of these sources of training have anything like the appeal or the prestige of, for example, our state universities. We ought to recognize that the vast majority of all students enrolled in colleges and universities are there primarily for one purpose. They are not nearly so much interested in learning how to live as they are in learning how to make a living. Many of them find boring and useless all of the advantages of the university except those specific courses which are aimed at preparing them to make a living. At the same time, very few of our universities are (or ought to be) equipped to offer trade and vocational training. We need a really adequate system of state trade and vocational schools on the same basis as the state colleges and universities. In this vital area of education we have the longest way to go before achieving anything like adequate facilities. It is certainly obvious that a very large number of our college and university students really need and want good trade and vocational training; that they are "in college" simply as a result of a rather vague but rapidly growing tradition.

WITH a careful revision of our educational program, we should develop a much more literate society: one in which almost all people could effectively read and write; one in which each individual would be trained more efficiently for the specific work which he was going to do; and

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The State of the College Union

By PORTER BUTTS

The Social and Educational Goals of the Campus Center

FIFTY years ago there were two college Unions in this country; at the close of the first world war perhaps a dozen. For the next fifteen years convention photographs of the Association of College Unions showed they were exclusively for the use of men. If women were admitted to the buildings at all, it was by a side door or on some special occasion, say, a dance. Admitted to the convention as delegates? Perish the thought!

It has been some time since there has been a general report on how the college Union is turning out. And there is much to say. I shall deal with the "state of the Union" in the conveniently arbitrary terms of *plus* and *minus*—drawing up a kind of 25-year balance sheet and leaving out, as accountants do, all the important explanations, or almost all. Everybody knows that nothing is exclusively plus or exclusively minus any more, and that there is a long stretch of gray between black and white where the truth is usually hiding, but omnibus reports are allowed a degree of oversimplification. And, as President Conant of Harvard has said: "Behold the turtle! He makes progress only when his neck is out."

First, then, an easy plus for the growth of the Union. Now there are one hundred fifty on this continent and there must be at least as many more in the dreaming or building stages. The United States Office of Education recently reported that present plans of colleges across the country indicate an expansion of existing Union facilities by 155 per cent—the highest percentage increase contemplated in any field of college construction.

It used to be thought a Union was only for the large university—an organization that would help overcome the penalties of size by unifying the big campus and personalizing and humanizing its procedures—but it is no longer just that. Unions now exist at colleges with enrollments as small as five hundred; and as many are being planned for campuses of one thousand students as for institutions of ten thousand. In short, it seems fair to say that there is an almost universal recognition that wherever numbers of young people are gathered together away from home—men or women, or both—a social center and program are needed, and that a Union is as normal and necessary a part of the college equipment as a gymnasium or health service—yes, even a library. And for that fast-growing recognition, a resounding plus.

Let us give a plus, too, for the

legislatures that are listening to the call for Union funds. It was unheard of till the 1940's that legislatures should give tax money for "nonessentials" like student centers (except for one lone exception: the Ohio State University Union in 1909), but since the war three or four have done it and several more have Unions on their appropriation agendas.

It is not absolutely necessary to have a Union building in order to have a Union and to do something constructive about student social life—many Union organizations have worked effectively for years in temporary headquarters or without a roof at all—but a permenent building certainly helps, especially if it is the right kind.

I want to give a generous plus for the quite evident progress in better Union planning and the changing concept of what a Union building can be. Time was when we borrowed each other's blueprints and faithfully copied down each other's mistakes. Or we simply hired an architect and put in an order for a Union building, as though he had one tucked away with his files on hotels. A dismal minus for that. Or we knew we needed a better ballroom than the gymnasium, a place to eat, and more space for the bookstore, so we said, "Let's build it and call it a Union." This, for the most part, we still do. A modified minus for that.

The planning of a Union is not just the planning of a certain kind of physical structure. The planning of a Union, in the best sense, means arriving at a well-considered plan for the social and cultural life of the college. If a Union is to respond effectively to the wide range of needs and interests of a college population at leisure, if it is to become genuinely a community center, which is now what we see it ought to be—the social and cultural heart of the campus—it will draw together in one place those facilities and activities which will give everyone on the college campus a reason for coming to the center. It will provide first for the activities of human beings in their daily routine: places for meeting friends, for conversation, for lounging and smoking, for reading the newspapers, for dining and refreshment. For young people especially, it will provide a place for dating and dancing and active games. It will provide rooms and equipment that will incite activity and encourage the congeniality that comes from working together on common projects. And finally, it will offer facilities that will introduce students to the enduring satisfaction of the arts, of hobbies, and generally of the creative use of leisure.

Provisions for personal and social needs will heavily populate the Union. The presence and the message of the arts will add grace and purpose to social activity. Coming to the Union for one activity, students will discover, and perhaps be inspired by, another activity. Cultural interests and daily living thus may truly blend into an art of living, one and indivisible. From this it follows that the known unmet social and cultural needs of the college population should be arranged for in a new community center and, further, that the college should provide there the means of cultivating new, worthy interests that may not at the moment be in demand locally but which, upon trial, have had a strong appeal to other young

people and which have inherent recreational or cultural value. It follows, also, that some realignment of existing campus facilities may be necessary so that there will not be missing at the Union an element essential to its functioning as a true center of campus life or a facility important as a matter of sheer convenience to the student-faculty body. The college will be richly repaid if, with the creation or expansion of a Union, the over-all design for campus living is made right, even though it involves some readjustments and shifts of existing facilities.

Certainly it is a mistake—and a large minus—in planning if the Union is treated, as it has been on some campuses, merely as a catchall for just those miscellaneous college needs previously not accounted for, without regard to their appropriateness or to implanting in the Union the core of activity essential to a good campus center.

BUT a building, however well planned, does not by itself create campus unity, or provide a rewarding social experience for students, or introduce them to new cultural and recreational interests. It just makes these things possible. What actually happens depends directly on the quality of the leadership of the key staff members.

I have a choice assortment of pluses and minuses for what we do about the leadership of our Unions. My view happens to be that if a Union is going to do for students what it ought to do, the staff members must themselves have an educational point of view, be devoted to the idea of making out-of-class activity work for the personal development of students, and be selected, therefore, according to the college's educational standards.

I award a plus, therefore, to the colleges which have given up the idea that any agreeable, unoccupied alumnus would make a good Union director. Fortunately this plus will go to most. But only a few years ago we would have had to search carefully to find colleges which could be given pluses. It was almost axiomatic that a Union staff member had to be an alumnus—this at the same colleges which would not think of limiting their choices of football coaches, history professors, or comptrollers to their own graduates. I would not for a moment exclude local alumni from Union positions, being a graduate of the institution where I work; but I suggest that it is a healthier situation for both the college and for the field as a profession if the qualifications of the candidate to do what needs doing are held paramount when appointment time comes.

For some institutions I have to take the plus back and regretfully exchange it for a minus when I see the lip service they give to the educational functioning of the Union. The president says there is scarcely anything of more educational importance to students than what happens in the Union. Faculty urge it as the necessary complement of the classroom. You can read it in any one of a hundred college booklets. They may even appoint a director who has the stuff for doing what is talked about. And then the college classifies the Union in the organizational chart as an "auxiliary enterprise," along with the college laundry,

and treats the staff as housekeepers and chore boys—the persons who are expected to bring off this much sought-after educational result and one most difficult to achieve.

An even larger minus sign goes to the administration that thinks running a Union is a matter of bookkeeping and staffs it accordingly. This concept of the Union is one which acknowledges its educational and social significance, but assumes it will somehow come about without either a program staff or budget. The college with this concept always wants to ask first, "How much does it cost?" The trouble is, this is the wrong question to ask. The right question is, "What do students need?" The right answer is, by skillful management and leadership, to get it. But such an approach seldom comes from people trained only to interpret financial statements and not statements of human need.

Whoever may be in charge of the Union, at whatever college you care to name, it is a safe bet he is too busy. If there is one liability more damaging than any other to the successful functioning of the Union, it is that the staff has far too much to do: no time to get to know students, no time to think about what the Union is doing or might do, no time to develop an interesting new idea, no time to put a stamp of quality on programs, no time for the recreation we arrange and recommend so highly to others. No time, usually, to do anything but take care of yesterday's emergencies.

The largest and bleakest minus sign of all, therefore, I hand to the colleges which forget that when other offices are closing, the Union is just starting another full workday, and that Saturdays, Sundays, and holidays often are the busiest times of all. They expect, nevertheless, that one or two staff members will do everything that needs doing—see that all goes well day, night, and week ends, supervise the dances, manage the dining rooms and bookstore, take care of a dozen meetings a day, set up a good recreation program for the whole campus, advise a score of student committees, train employees, see to purchases and repairs, show visitors the building, and make ends meet. And maybe, be the alumni secretary or do the college fund-raising job, on the side.

On the other hand, a grateful plus is reserved for the rare administration that cares enough about the needs of students and about keeping Union directors off the list of nervous breakdowns to let a Union have not one chief assistant but three, four, or ten. Most Unions would settle for the number of staff assistants the college employs to coach 50 men on the football squad.

TO THE idea of student leadership of a Union, jointly with the staff, I give another plus. In fact, I have saved space at the top of the plus column for the plushiest one of all. I cannot think of another college enterprise involving college-owned buildings and college operating staff where students have been taken more completely and universally into full partnership than in the Union. And it has been so almost from the beginning. The Union student committee, with a staff member sitting in, is probably the key to the special strength of the Union as a responsive,

fully democratic, educationally significant institution.

Some people fret about the committee way of doing things, some oppose it, in the Union or anywhere else. "It takes too much time; it's inefficient. And what do the students know about it anyhow?" so they say. We would do well to remind the protestors and ourselves that free self-direction and self-government of the committee kind are at the heart of the American democratic method. It may be a slow way of getting things done. Inefficient, sometimes. Mistakes are made, of course. But, as William Jennings Bryan said, "It is far better for people to make their own mistakes than to have someone else make their mistakes for them."

There are some phases of self-government in the Union and in other areas of student life, however, which do not help the democratic cause and which rate a minus—especially the general campus election of committee and board members, and the notion of complete independence for student government. This may seem a sharp contradiction of what I have just said. I do not think it is. There are some special characteristics of the college community which are too often overlooked when the student-government system is planned, in or out of the Union. We get off the track when we try to set up a form of student self-government which copies the form of city government. I know it sounds good to say, "Students ought to have experience in self-government to be prepared to take their part as citizens; so we will set up a student government like our city government and let students run it entirely themselves." The trouble is that the situation is not the same. There are all kinds of important differences. Let us look at some of them.

In the first place, there is already a government set up for the college by law—usually the trustees and the faculty. And many of the important functions of government typical of the city—safety and police protection, services and utilities, traffic, conduct, assessment of penalties, taxes—are already lodged there. So a student government, functioning separately from the established college government, has a pretty thin slice of what city government normally does, and pretty limited final authority to do anything about even that slice.

Second, the nature of the student community is that the population is transient. In city government, elections, to be sure, are the keystone of the democratic way. But the essence of the success of the elected representative system is an electorate and a candidate that know something about each other and a lot about the problems at hand. Student candidates, being newcomers, have no real opportunity to build up a public record of performance or even to announce the ideas for which they stand. The student electorate has no opportunity to express approval or disapproval of its representative's behavior in office, for after a year he is gone anyway. The student body itself, after a year, is half new. In many ways, asking all students on a large campus to elect Union officers is like asking the people moving through the Grand Central Station to get together in the station lobby and elect some of the transients

among them to run the railroads. At least, it is not like having the population of a city, which has lived there long and knows its problems, choose among candidates who over a period of years have built up reputations for what they stand for, and have to face the consequences if they go wrong. What you really have in such student elections is the appearance of the democratic process but not the substance. How good is that as preparation of students for later self-government of their own communities? It can give a completely wrong notion to students of what good, responsible self-government requires: the notion that you do not really have to know anything, do anything, or account to anybody. It must be remembered in connection with Union government that there is more to self-government than elections and lawmaking bodies. A vast range of our public affairs—including the operation of community centers like Unions—is tended to by boards, commissions, and committees which are not elected but appointed. We choose representatives of the public who are specially qualified for the job at hand and consider it in the interests of good government. For the most part, we would not have it done any other way. Where the members of the board come from and how long they stay is the matter of importance.

The third difference between the campus and the city is that government works in the city, once the elections are over, because the city council has a formidable array of full-time paid employees to carry out what is decided, while most student government boards have no one except volunteer student helpers, who are not around when needed. This often results in dissatisfaction and cynicism on the part of other students who expect action and service, and feelings of frustration and disillusionment on the part of the governing-board members themselves. I wonder if this fosters enthusiasm for more self-government.

MANY student leaders, however, view with suspicion any suggestion that they relate themselves to the existing administration and paid personnel of the college. When things do not go well, instead of seeking assistance from the college, they blame somebody for not granting more power, or they "change the constitution." (While we are at it, let us hang up another minus sign for annually and eternally changing the constitution—as though that made any real difference—and never getting around to doing anything else.) Some students fiercely maintain their organization's independence of the rest of the college community, fearing no doubt that they will be unduly influenced by the faculty. I wish I knew how to dispel this popular fallacy. Faculty members by and large are surprised and flattered to be asked to share a student problem. They are glad to help if they can—most of them are scared to death they will not know how—and the last thing they think of is to interfere with what students want to do or to try to control what they do.

There is, of course, much by way of state regulation or college policy which traces to previous experience or to the wishes of the citizens of the state that college officers have to abide by and have to insert into the government of the college community,

student affairs included. Such external control should not surprise or dismay us. Every self-governing group is regulated in some respects by some larger authority—the village by the county, the county by the state, the state by the nation; and we now have an international organization which aims to impose limitations on what a nation can do. In the same way, student boards and committees have responsibilities to the faculty and trustees who are charged ultimately with the well-being of the college. To ignore the necessity of working with other duly constituted self-governing groups and to forego the opportunities of learning how to work collectively with others, again is to miss one of the essential elements in learning and strengthening the democratic process. This idea of fiercely maintaining our independence and sovereignty against all comers, whether as students or as a nation, is one of the prime causes of fruitless conflict. To learn how to share our group sovereignty, how to work co-operatively with other organizations with interests different from our own, is the fundamental lesson to learn in democracy.

If students are reluctant to call in faculty aid and counsel, I must say there has been just as much hesitance on the part of faculty in bringing students into their councils. Personally, I think there is much to be gained in accepting a student as a full-fledged, responsible member of the community, as a partner in the governing enterprise. The faculty is likely to learn a lot from students and to be stimulated with a new respect for what students can accomplish. And it will be the best possible preparation of students for their rôle as self-governing citizens. They will then be in a situation more nearly the counterpart of self-government elsewhere, seeing community problems as a whole and not just a segment, and having effective means at hand of carrying out decisions made.

Most Unions, I am glad to say, now do it this way. They have progressively abandoned what Dean Newhouse has called the romantic concept of the 1920's when most of us thought it was automatically democratic student government, and good *per se*, to have a campus election of Union board members, even committee chairmen, and then set them adrift to see what they could do. We are finding that it is the mutual sharing of the experience of the staff and the aspirations of students, this friendly give and take among the older and younger members of the community, that has made the Union a thriving and rewarding campus institution.

MANY are familiar with the statement of the goals of the Union—to provide a recreation program for the student body, to reduce the costs of going to college, to further fellowship and understanding, to make the college a more human place, to promote the personal development of students, to give students experience in self-government and develop leadership, to unify the campus.

All of these are being realized in varying degrees. All are in my plus column. But now I want to suggest a superplus to which all our purposes can contribute. This is a time when we need to relate what we do to the things that matter most.

One of the things that matters most—it is hard to think of anything else that matters more—is making democracy work well, making it cherished here and throughout the world. Upon the outcome depends whether or not men are going to have freedom. And we are not talking any longer about a competition of political ideas in the abstract; it is plain that we are now talking about life or death of peoples, including our own.

Democracy is predicated upon the universal education of its citizens. The whole educational process in America, fundamentally, was and is intended to prepare young people to make democracy work, to prepare them for intelligent participation and effective leadership in our common life together. This, above all else, is why our society makes the investment it does in education.

But the alarming evidence is that only a small fraction of those from whom we expect the most, our college graduates, have been sustaining the burden of public leadership, either at the top or the bottom of the ladder of civic affairs. The President's Commission on Higher Education recently said:

> All too often the benefits of education have been sought and used for personal and private profit, to the neglect of public and social service.
>
> . . . . . .
>
> Teaching and learning must be invested with public purpose.[1]

And yet at this critical juncture more and more college students are removing themselves as far as it is possible to get from the classroom courses that might help most in the understanding of our common problems and in producing leaders of our common life together. Last year American colleges awarded more Bachelors' degrees in business than in any other field of concentration. Engineering was second. Even the student-veterans, who have more reason than anyone never to want to see war repeated or to see our society ineffectual in taking care of human needs, have turned, nevertheless, largely to the self-centered, job-getting studies of engineering, commerce, law, or other specialties in making a living. The demands of these courses are such that there is little or no room left, in classes, for them to consider the destiny of our society or to prepare themselves for their part in it.

Until there is a realization of the desperate urgencies confronting all of us, or a change in the rewards now given for the way a student spends his time in classroom work, the job to be done will need to be done in large part through education outside the classroom. And some things can be done only outside the classroom.

First, arrange for the maximum of student volunteer service; show students that what we call extra-curricular activity is not "extra" but essential, not an end in itself to be dropped cold after graduation but the counterpart and preparation for community service and the assumption of leadership wherever they may go.

Second, make the campus itself and all of its institutions strongholds of what is best in democracy, examples of what can be achieved through our combined personal efforts, arousing the enthusiasm of students for what the democratic process can do and for democratic activity in every com-

[1] *Higher Education for American Democracy.* New York: Harper and Brothers, 1948. Vol. I, pp. 10, 11.

munity. In so doing we will be engaged with the fundamentals of education in a democracy, and will be doing what, in many respects, the classroom cannot do.

Let me repeat that the basic idea at the root of American society is the elimination of reliance upon external authority at the top, and investing authority and responsibility in the ordinary person himself as a good citizen. Good citizens, however, are not made merely by reading about good citizenship, still less by hopeful exhortations at commencement time. Citizens are made by the experience of citizenship.

The college has in its residence halls, its Unions, and its life and activity generally outside the classroom the natural laboratories where all who will may have a part in the direction of community enterprises. Here is where democracy and individual responsibility may be continuously practiced. In the Union especially, we have a priceless tool for shaping community solidarity and the student's sense of social responsibility. It is the Union's job to make all this clear to the college administration.

IN NUMEROUS campus surveys students have told us how much time they have and what they do with it. College students devote as much or more time to leisure as the average adult in civil life, about 42 hours a week—and this holds for the working as well as the non-working student. The hours spent each week in leisure pursuits by the average student—forty-two—almost equal the time he invests in study and classes together, far exceed the time he works at a job, and are second only to the time he sleeps. Most of these leisure hours go into what writers on recreation sometimes classify as largely passive pastimes: movies, radio listening, "bull sessions," dating, watching sports events, and just plain loafing. The so-called motor activities, including outdoor exercise, competitive sports, dancing, and games, take a middle place; and intellectual or cultural recreation is a poor last.

Only 3.5 per cent of the total leisure of all students goes into the so-called "student activities." Only about one-third to one-half of the student body, reports from both large and small colleges show, are identified with an organized group of any kind, including clubs and fraternities—even as members. As few as 10 per cent contribute serious personal effort. What of the rest, who give no time whatever to helping out in the organized pursuits of the campus?

Out-of-class organized activities, contrary to a common misapprehension, are neither extensive nor intensive enough to constitute a threat to academic performance; the threat, if there is one, lies within the much broader area of aimless amusements. The tragedy is the terrifying apathy the majority of students show toward both campus and world affairs.

About scholarship: actually it is often found—how much is cause and effect, and how much a pre-selection process, we do not yet know—that the busy student leaders and the frequent participants in community-center activity like the Union's have higher scholarship than those who participate infrequently or not at all. Furthermore, a high percentage of the leader group also work at part-time jobs, earning part of their living in their stride.

I should remind the college administration that hesitates to encourage anything but academic studies of what Pericles, representative of a people most respected for learning in academic circles, said of Athenian institutions 2,380 years ago. He said:

> Our citizens attend both to public and private duties, and do not allow absorption in their own various affairs to interfere with their knowledge of the city's. We differ from other states in regarding the man who holds aloof from public life not as "quiet" but as useless.

And lest, perchance, the fifth century B.C. seems slightly out of date, I quote Columbia's Dwight Eisenhower:

> Only when each individual, while seeking to develop his own talents and further his own good, at the same time cooperates with his fellows for the common betterment—only then is an orderly civilized life possible. Education for citizenship is the first function of our educational system.

The college Union has a part in this job of surpassing importance—the job of enlisting everyone in a personal concern for the general welfare. The Union is the kind of social and service institution where it ought immediately to be apparent that the ideals of democracy are practiced and that they work. The Union can see to it that its own household is in order and by example encourage other college enterprises to do likewise.

For the student, the campus is the present reality. Here he will see whether or not the basic questions of what people need are being faced. Here he will see whether he has a part in the process, or whether these things are settled by outside authority. Here he will see whether or not anyone really cares about the well-being of others. And what he finds in the Union, what he does there, will be, for him, a prime example of what the methods and goals are. The Union, as the community center, will exemplify perhaps better than anything else what the community stands for.

Do we actually welcome students to a share in making the important decisions in the Union? Do we reach out to the vast numbers of unorganized students when we appoint committees or promote our programs? Do we countenance race or color discrimination when we choose employees or elect officers? Do we close our meeting rooms to certain groups, or our lecture platform when a troublesome issue is up? Do we show we are interested in anything that is happening beyond the borders of the campus? Do we care enough about what it costs students to eat at the Union or to use its services? Do we wink at student petty graft? Do we consider legitimate student requests and needs?

Here, in short, at the threshold of his participation in adult affairs, the student will find out how well democracy works where it ought to work best—in an enlightened college community. And his attitudes, his feelings of personal obligation to do his part, will be substantially shaped accordingly. If the student learns, in his out-of-class life, the habit of volunteering to act in terms of what is best for the group, if he learns how to help make his campus community good, even though it is a special kind and he is here only a while, he will have attained practice and skill and the motivation that will help him do it again in other times and places. The reassuring evidence is accumulating every day, from the records of Union committeemen in public office or in places of leadership in community affairs, that this is true.

Technology in British Universities

By J. F. BAKER

The Undergraduate Course and Graduate Research

THE only branch of technology which is widespread in the twenty-three universities and university colleges of Britain is engineering. Isolated departments dealing with such subjects as textiles, color chemistry, and dyeing exist, but in all universities save one, there are departments of engineering.

At first sight, the British system of educating and training engineers appears close to that existing in America. In fact, when listening to a group of professors at the Massachusetts Institute of Technology discussing their courses, their difficulties, shortcomings, and successes, one could easily imagine oneself back at a meeting of the Faculty Board of Engineering at Cambridge. However, this emphasizes the common problems and aims of the two countries rather than an identical system of education.

In the first place, in spite of the fact that the number of students of technology has been more than doubled since the Second World War, British universities are much more selective than is the case in America. In general they are concerned with the education of technologists, the men who are to deal with tomorrow's problems, while the technicians, who deal with existing processes and methods, are the responsibility of the large number of technical colleges and schools maintained by the cities and other local authorities, which are quite distinct from the universities. Incidentally, these technical colleges also train considerable numbers of students for London University external degrees.

The normal undergraduate university course in engineering is of three years' duration. The standard at entry is now very high, a knowledge of the basic subjects, mathematics, mechanics, and physics being demanded which is little, if any, short of that attained after the first two years at an American university. During the undergraduate course, emphasis is being placed increasingly on the fundamentals of engineering science. Conditions vary somewhat, and some universities still find it necessary to devote time to techniques so that their products will apparently be more able to do immediately useful work on graduation; but a better understanding by industry of the part university men are to play is rapidly making such purely technical training unnecessary.

In most universities all engineers devote the greater part of the first two years of their course to a common study of the basic subjects, only dividing in the third year for their more specialized subjects of civil, mechanical, or electrical engineering.

In others, no distinction is made. At Cambridge, for instance, which, in spite of the postwar growth of the provincial universities, is still the largest undergraduate school of engineering in Britain, all men study the same subjects during the normal three-year course. At the end of the three years, the men sit a comprehensive examination in all the subjects, mechanics and mechanics of machines, theory of structures, heat and heat engines, electricity, fluid mechanics, materials, mechanical drawing, and graphics, and write a general paper which includes an essay. This means that the whole content of the course must be revised and integrated, and this is considered to be an important part of the intellectual discipline, of learning how to learn, which is the chief purpose of a university education.

While three-quarters of the Cambridge students leave the University after this examination, there is a further course, technically a fourth year, though usually taken in their third year by men bright enough to compress the normal three-year course into two. Then the men are allowed to devote time to their particular specialty but, though more advanced work is done, this is not in the nature of a postgraduate course; emphasis is turned from the analytical approach of the normal course to synthesis, and more time is devoted to practical laboratory work.

While it is never forgotten that the men under instruction are to be engineers who are to deal with practical matters, as little instruction in techniques as possible is given, because it is thought more important to devote the time available to inculcating a sound knowledge of scientific and engineering principles, and it is known that instruction in practical matters and today's techniques can much better be given in the atmosphere of an engineering works. This system can only be successful when industry, realizing that the university product is not yet an engineer, is prepared to provide for him a well-organized and broad practical training. The somewhat haphazard methods which enabled a man to gain experience rather than a practical training are not entirely a thing of the past, but an increasing number of recruits pass straight from the University to a two-year graduate apprenticeship in one of the big industrial organizations where they are well catered for.

ANOTHER function of the University is to provide training for research workers. The quality of British research in applied science is fully equal to that in pure science, and an increasing volume is being carried out in the universities. Courses of research are provided in most places leading to the M.Sc. degree in two years or the Ph.D. degree in three years, for which the candidate submits a thesis embodying the results of his researches. Unlike American practice, little or no formal instruction is given in these courses, the student devoting all his time to research; and it is here that the most obvious difference in the two countries' methods is to be found. In Britain, apart from the supervision of research students, there has been very little instruction in technology at the postgraduate level. It is now thought that this may be responsible for some of the

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The East-West Philosophers Conference

By NEAL W. KLAUSNER

Held at the University of Hawaii during the Summer of 1949

A MEETING of no minor significance took place on the campus of the University of Hawaii from June 20 to July 29, 1949. Nearly fifty philosophers from six different countries came together for six weeks to "study the possibility of a world philosophy through a synthesis of the ideas and ideals of the East and the West." This was the second conference, held ten years after the first. The project was conceived by the distinguished President of the University and made practically possible with aid from the Rockefeller, McInerny, and Watamull foundations. The first conference in 1939 was on a much smaller scale but was so encouraging in its consequences that a more elaborate one was planned and carried through in 1949. Three important books came out of the first meeting: *The Meeting of East and West*, by F. S. C. Northrop; *Philosophy East and West*, edited by Charles Moore; and *The Essentials of Buddhism*, by Takakasu.

An unusual feature of the 1949 conference was the presence of twenty-four "younger" teachers of philosophy from the colleges and universities of the United States. I put younger in quotes because some of these "associates" were older than some of the "members." Most of the associates were able to come because of grants-in-aid made available by the foundations. The distinction between "associate" and "member" should perhaps be made clear. The members were those who came to read papers and to teach as well as to learn. The associates came primarily to learn. It was not long, however, before the distinction was forgotten. Except for reading papers, the associates were given the opportunity to participate fully and freely in the work and the discussions.

The meeting was held coincident with the summer-school session of the university. This had two advantages. It brought many more students, professors, and visitors into contact and acquaintance with the aims and work of the conference, and it also provided an opportunity for summer-school students to select a course or two from a rich offering in comparative philosophy. For example, the following courses were open to associates, members, and some of the students regularly enrolled: Indian Philosophy, Chinese Philosophy, Buddhist Philosophy, Metaphysics, Seminar in Comparative Metaphysics, Seminar in Comparative Methodology, Seminar in Com-

parative Ethics and Social Philosophy. Most of the associates, recognizing that such an opportunity does not often appear, enrolled in three, four, or five of these courses, and thus loaded themselves with a real burden of work. This meant that the morning from 8:30 until 12:45 was spent in class sessions. The afternoons were free for work in the library, group discussions, recreation, trips to various points of interest on the island, and so on. In the evenings and on Saturday morning the conference program of the reading and discussion of formal technical papers was scheduled. These were extraordinarily well attended by visitors and students. In fact, many of us were completely surprised and not a little bewildered by the interest the people showed in philosophy. It was, I think, encouraging to all of us. I remember one night when Mr. Northrop, in a brilliant lecture, held the absorbed attention of a packed auditorium for an hour and three-quarters.

Near the close of the conference we were told that some of the Oriental philosophers were so impressed with the need for such meetings and the opportunities they offered that they hoped to arrange similar gatherings at the five-year interval between the regularly planned meetings of the East-West Conference, to take place in Japan or India. The President of the University also announced that the university was exploring the possibilities of having East-West conferences not only in philosophy but in the arts, drama, sociology, and so on, thus carrying out in ever widening relations the original idea of finding ways for the East and the West to share their rich heritages, and by mutual criticism and understanding come to a community of minds. Another practical step was taken when the group gave its approval to the establishment of a journal in comparative philosophy. No name was selected for the publication, but a committee was appointed to work out the details. It is believed that the journal will perform a major service to philosophers in this country by making available articles and translations of materials not otherwise accessible.

IT IS, of course, impossible in this brief statement to give a summary of all of the papers and discussions. There were twenty-two papers read, excluding the lectures and discussions not so formally presented. Moreover, one cannot measure the great personal values that came to each of us as we participated in innumerable arguments and inquiries wherever and whenever we met, after sessions, at meals, on the beach, in the classroom, and in our rooms. It was an unusual experience and a rare privilege to live in such informal, intimate fashion with fifty men and women in one's own field. Names which we knew only as signatures at the end of a paper or as listed in college catalogues became attached to personalities, and these soon became friends. We were all greatly disappointed not to be able to add to our growing friendships the names of Mr. Radhakrishnan and Mr. Dasgupta. The former was unable to come because of his recent appointment as ambassador to the Soviet Union, and the latter had become ill. Hu Shih, too, was expected, but affairs in China prevented his return.

Many of us came to the conference with little or no knowledge or appre-

ciation of Eastern philosophy. When we left we not only had a good deal more information and understanding, but we had discarded many of our misconceptions. We had learned to recognize our common interests and had become aware of astonishing parallels in our intellectual history. We also learned that we can admire and respect our differences. I am sure few of us will again speak or write carelessly about "Oriental" philosophy as if it were all of one piece. Real and significant distinctions must be made not only as respects the thought of China, Japan, and India, but also concerning the variety of viewpoints and positions, as complex as the strains in Western thought, which exist within each culture. No one expected that from our similarities and differences a "world philosophy" could be derived, all pat and parcelled, ready for distribution to the peoples of the earth. I remember so vividly the first night the conference was in session when each of the members expressed his anticipations and hopes for the work to be done. No wild, absurd claims were made—no impossible goals were set up. Yet each spoke sincerely and briefly, recognizing that first steps were being taken in an enterprise that had enormous potentialities and might have as momentous consequences.

During the last day of the sessions each of the seminars brought to the conference a report of the work which had been accomplished. I cannot reproduce here those summaries, but perhaps a brief statement will give some idea of their content. The Seminar in Comparative Metaphysics found "three rather clear-cut differences of metaphysical outlook" emerging from the discussions.

First of all, Hindu and Buddhist philosophy have focussed so much attention on an ultimate reality, largely inaccessible to the categories of ordinary logical discourse, that the field of finite existence has been to some extent neglected, and in some cases denied any independent, metaphysical status. This has been opposed to a prevailing Chinese and Western tendency to emphasize the independent status of nature and the individual. Second, Chinese Neo-Confucianism and Western Naturalism have generally found little need for the recognition of any absolute or self-sufficient being transcending nature. This has been opposed to important trends of Hindu and Western thought which have stressed arguments requiring the recognition and postulation of such a necessary being. Finally, in the third place, it seems to be true that Eastern thought has rarely insisted on such a sharp distinction of the purely theoretical modes of investigation from the practical as has that of the West.

Then follows a statement of the major differences and basic metaphysical similarities which exist between East and West. The report concludes with an expression of the conviction that

> the conclusions actually obtained concerning basic, metaphysical issues indicate not only that the conflicts which have often been thought to divide Eastern and Western theories of reality are not irreconciliable, but that their resolution may have positive and fruitful consequences for contemporary life and thought.

The report of the Seminar in Methodology, after presenting what had been discussed as the major differences in the methodological assumptions between East and West, stated that the

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The Madness of Method in Higher Education

By HERBERT SCHUELER

Persistence of Old Ways of Instruction Regardless of New Facilities and Psychological Facts

IT HAS happily become the fashion for institutions of higher learning to engage in self-appraisal. The wave of postwar planning, probably one of the few salutary effects of the last war, has let loose in many of our colleges and universities a dynamism of self-evaluation which cannot fail to have some worth-while effect, even if it does little more than compromise to some degree the complacency and the resistance to change which have traditionally been the primary characteristics of higher education. We are therefore prepared to see, and entitled to expect, changes where change after examination is indicated and the affirmation of the old where it has proved its worth. An examination of the literature on higher education of the last ten years reveals great concern about fundamental objectives of higher education as they relate to courses of study to be offered and required or elected, but little or no concern with these same objectives of higher education as they should find application and fruition in the actual learning situation, the contact of teacher and student, and student and student, in the classroom. This splendid spirit of self-appraisal is affecting our college catalogues, the subject-matter of our courses of study and our examinations, the students' course cards and reading lists, but it is by and large having little effect on the actual conduct and guidance of the learning situation. In other words, our concern has been almost exclusively with the content and not with its necessary complement, the method. And while it is indefensible, and universally condemned in academic circles, to be preoccupied with method to the detriment of content, it is just as indefensible, although quite often viewed with self-righteous approbation, to be preoccupied with content to the exclusion of method.

A college professor changing institutions finds much he must adjust to in his new institution—new colleagues, a different campus, a different community, sometimes courses of study with a different content—but once he has closed behind him the door of his classroom and begun his lecture, he is secure in the knowledge that he is on familiar ground, that without need for investigation he can assume that in the majority of classrooms in his new institution, as in the one he has just left, the professor is talking. The common denominator of college and university method is still, and has been since the great universities of the Middle Ages, the lecture, the pro-

fessor talking, sometimes *ex tempore* and sometimes from a manuscript, sometimes with eloquence and sometimes with soporific deadliness, but always and continually talking. There are, of course, certain elements of administrative reality that have made the use of the lecture method inevitable, and only to a limited extent within the individual professor's option. In this era of swollen enrollments and shrinking endowments, the widespread scheduling of sections numbering hundreds of students in some basic courses has not only made the use of the lecture inevitable but often has made necessary its amplification by public-address system. And when extraordinary enrollments are not a factor, the presence on the average campus of many large lecture halls, which it would be "wasteful" not to fill, and the financial lure of large student-teacher ratios, have worked toward the same end. However, it is quite safe to predict that even when the number of students is few and the room is small, a glimpse into it will much more often than not find the professor lecturing. In fact, it is safe to make the generalization that factors other than large class-size have determined the widespread use of the lecture method in college and university classrooms. It has been the experience of many graduate students, for instance, that even the presence of just a handful of students in the room will not deter the professor from lecturing. So ingrained is the compulsion to lecture in college and university professors that, even when they are among their own kind in professional conventions, they persist in reading papers off at each other in spite of the fact that the papers were written primarily for inclusion in professional journals and are usually extremely ill-adapted for aural ingestion.

WHAT, then, are the principal factors that have made the lecture the characteristic method of higher education, and the predilection to be continually talking the mark of the professor, as it is, on a lower level of vocabulary, the mark of the politician? One dominant factor, of course, is tradition. The present generation of college professors was brought up on it, as were the generations before it all the way down to the medieval university. The fact that his experience, in his student days, of being exposed to incessant lecturing, with its inherent invitation to mental passivity if not outright inaction, does not act as a deterrent on the teaching habits of the professor, is a curious psychological phenomenon. (What makes the Sophomore who suffered most as a Freshman develop into the most enthusiastic hazer of them all?) The second factor, and by far the most important, is the undeniable fact that it is easier to lecture, not to lecture well but just to lecture, than to engage in almost any other kind of teaching activity. The professor faced with the necessity of teaching the effect on world trade of currency devaluation, or the influence of Freud on the novel of the twentieth century, finds it simplest to prepare a lecture which, once delivered, can be assumed to have "covered" the subject. The problem of considering the relationship of his students, as individuals and as a group, to the subject, the ways in which they may react to it, and the ways which may be used by the teacher to bring them closer to it and to stimulate and guide the working of their minds, introduces

into the professor's preparation and into his classroom procedures that most complex of all variables, a consideration of the student and how he can best learn. Such a consideration of the student, as a necessary complement to the consideration of the subject, means that no two sessions, even when devoted to the same subject, can ever be alike; for whenever the learner is brought into the situation as a factor, he must be called upon to participate actively, and his active participation in the form of questions, answers to questions, and discussion, in addition to the more passive activity of listening, will inescapably modify, and modify differently with each new group of students, the professor's plan of subject coverage.

The greater expenditure of effort in study, preparation, and teaching that such attention to the student in the learning situation entails, is considerable, and the habitual lecturer in our colleges and universities is unwilling to make it. His justification of this attitude usually takes two forms: first, he considers his major contribution to higher education to be in scholarly research into his specialty and fears the distraction of time and energy such increased attention to his teaching may bring; and, second, he considers that learning is the student's business, and any "concession" made to assist his learning is "mollycoddling" which weakens the student's moral fiber and makes of an institution of higher learning a "mere high school" (than which no accusation is considered to be more devastating). As to the first justification, we cannot pin exclusive responsibility on the professor. Tradition is all in his favor: the function of the professor as a contributor to learning through his research and writings has always taken precedence over his face-to-face contribution to the development of his students in the esteem it has earned him within the profession and with college and university administrations. Full consideration of the problem of scholar versus teacher needs another article; suffice it to say here that the solution of the problem lies not in the valuation of one at the expense of the other, but in the realization that research and teaching must be complementary activities and in the aggregate must enrich one another. As to the second justification, little can be said in its favor. A considerable body of research into the process of learning and mental and personality development, as well as considerations of basic philosophy, weigh against it.

WHILE it is true that an enlightened aim of higher education is to develop accomplished and nobly intentioned autodidacts, it is difficult to see how the average college lecture contributes to that end. Much of what is said in lectures is better and more effectively stated in print, and if all the lecture can contribute is a less complete version of what can be cheaply mimeographed, with its effectiveness limited by the skill of the student in taking notes from oral discourse, then it might be advisable to do away with the classroom and lecture hall altogether and reduce the learning activity of higher education to what is appropriate to the library, the studio, and the laboratory. As a means of imparting information, especially if habitually used, the formal lecture is probably the most ineffective and wasteful of methods. There was a time, when books were few and

laboriously hand-wrought on parchment, when to read from them to a roomful of students was literally the only feasible method for professors to disseminate widely the knowledge contained in the precious manuscripts. (To this day, conventional courses in German universities are called *Vorlesungen* and the professor is said to "read" them, which he, in fact, quite often does.)

The printing press and the duplicating machine have disposed of that primary justification of the lecture, and unless there is some gain in having the material heard rather than seen, and in having it straight from the professor's physical presence (otherwise, a recording would do as well), there is little to be gained from the lecture. In fact, it may easily work to the detriment of both student and teacher, the student in reducing the process of learning to passive and inevitably incomplete absorption, the teacher in encouraging the widening of the already considerable gap between himself and his students. To present didactic material orally for any length of time puts entirely too much dependence on the student's power of sustained aural comprehension, which is, at best, even with strongly motivated and able individuals, not only severely limited by aural fatigue and the ability to take notes accurately and rapidly but seriously and cumulatively set back by each successive unanswered question and not wholly understood point in the student's mind. To make a didactic lecture at all effective, the lecturer must make skillful use of repetitions, illustrative examples, and problems tied as far as possible to the student's interest and experience, and, above all, he must know his audience so well that he anticipates and satisfies at least the majority of the questions that arise in the student's mind during the lecture. But the man who is genuinely concerned with what is going on in the student's mind while he is lecturing, usually seeks ways to bring the student into the picture by inviting questions and reactions and, as soon as he does that, he finds himself no longer lecturing.

Learning succeeds to the degree that the learner feels that what he is learning matters to him and to the degree that he is actively engaged in the process. Neither factor is effective without the other; learning is their product, not their sum. While it may be possible for the student to achieve a significant degree of motivation by the contagion of a lecturer's enthusiasm for his subject and his skill in arousing interest, it is difficult to see how any series of lectures, no matter how skillfully conceived and delivered, can consistently evoke sufficient student activity to justify their regular use. In a formal lecture situation, the lecturer, let us give him the benefit of the doubt, is the one truly active person in the room; therefore he, and not any one of his students, is the one who is learning the most. His students are spectators of the learning process, rather than participants in it.

In what has just been said, however, there lies the one important justification for the use of the lecture method. There are times when the point of view of the professor and his personal identification with the subject outweigh all other considerations, when what has to be said can be communicated only by him. Such moments are usually of an appreciational or inspirational nature, as

when, in my experience, an astronomer with contagious enthusiasm opened up for us in his first lecture a hitherto unimagined world of incredible magnitude, by comparing the microcosm of cell structure with the macrocosm of the astronomer's universe; and a professor of the drama, blessed with great acting skill, brought us close to the beauty of great tragedy by reciting with commentary the major part of *Oedipus Rex*. But these, valuable and unforgettable as they were, were moments only, for the astronomer quickly bogged down under the necessity of "covering" the subject of astronomy in seven lectures of a science survey course, while the drama professor led lively discussions with his students, based on their readings and his wider experience, on the nature of tragedy and the contributions of the Greek tragedians to the modern drama.

The lecture, then, has a place in the methodology of higher education, but it must be chosen only when it is the approach most appropriate to the student, the subject, and the professor; and that time will come only occasionally, if at all, in the conduct of any given course. There is little educational justification for the universal practice of scheduling a course in, let us say, Elements of Sociology, or Main Currents of Nineteenth Century Thought, or Consumer Economics, for three lectures a week for fifteen weeks, as is so common in the catalogues and the practice of our colleges.

THERE is another method that occupies a place in higher education second only to the lecture, and that is the formal recitation, a common affliction of courses in foreign languages, elementary mathematics, and certain portions of courses in the natural sciences, to name but a few. The formal recitation, like the formal lecture, is a method of convenience with a history fully as long. In our own intellectual history, its beginnings date back to the catechetical method of institutionalized Christianity, with a significant milestone on its way to the modern secondary school and college in the *repetitio* following the lecture in the medieval university. Its greatest influence has been on the secondary school (and its persistence there is a major retarding factor in the effectiveness of secondary education), but it is used freely in those college courses that are considered to be closest akin to secondary-school courses, especially "skill" courses required of students in the first two years of their college career. Particularly ironic is its use with the lecture in that most modern of disciplines, the natural sciences, in much the same way that it was used in that most unmodern of institutions, the medieval university, with the assistants to the professor acting as recitation drillmasters in testing the student's recall of the lecture. In consisting simply of a test of the regurgitative power of the students in repeating preconceived and set material, the formal recitation is, in its way, even though it involves greater activity, as ineffective a method as is the lecture. Its greatest weakness lies in its uncompromising, mechanical nature, in reducing the activity of learning to a series of unmotivated exercise repetitions. The enthusiasm of even the superior student palls under the anticipation of listening to the endless progression of question and answer (often asked in predictable order, like

the alphabetical order of last names, or the order of permanent seating) based on assigned exercise material. It is not unusual to have the assignments for each day made, calendar-like, weeks in advance, so that the student knows exactly what will be "covered" each day and, if he succumbs to the temptation to cut, what he will nevertheless be held responsible for. It is the method of education that was originally conceived to test rote memorization, memorization by sound rather than by meaning; and even with that aim, as all good teachers of language will attest, it has severely limited utility.

The point that is being reached for is not primarily that the lecture and the formal recitation are in themselves "bad" methods, but that, being the methods of greatest convenience, they are so widely and uncritically and habitually used. That they are also methods of limited effectiveness makes it worse. The problem is not what are "good" methods of higher education, but how can we make each learning situation the one most appropriate to the learner, to what he is to learn, and to those aids, personal and material, which the institution is able to offer. And this is precisely the problem which our postwar committees of evaluation, with their many plans, have not seen fit to consider in a manner that will even begin to pierce the methodological complacency and the resultant madness of method in higher education.

FIRST and foremost is the need for the widespread recognition of the fact that a problem exists. That in itself will be a significant step forward. Once college faculties and administrations realize strongly enough that attention to method is a necessary and inevitable concern of anyone interested in the quality of higher education, the appropriate wheels will be set in motion. The necessary second step is to restudy the agreed objectives of an institution's program of study and student life for its implications not only on course descriptions and subject-matter syllabi and the academic content of each student's program, but for its implications for the nature and content of the learning situation and its proper guidance. The Harvard Report, for example, in considering traits of mind fostered by education "so important as to prescribe how general education should be carried out and which abilities should be sought above all others in every part of it," lists four as being of primary importance — the ability to think effectively, to communicate thought, to make relevant judgments, and to discriminate among values. There are few, indeed, who question the desirability of these objectives, but at the same time there are few who see implications in them beyond the necessity of setting up courses of study. The implications drawn by the Harvard Report are typical. In analyzing the ability to think effectively, for instance, it finds that "the three phases of effective thinking, logical, relational, and imaginative, correspond roughly to the three divisions of learning, the natural sciences, the social studies, and the humanities, respectively," and then proceeds to set up required courses in each area for the student to "take." Without going into the soundness of such compartmentalization of the thinking process, let us admit for the moment that a major objective of a course in inorganic chemistry is to

further the student's ability to think logically. Can we then assume without investigation into its procedures that it will do just that? Is it safe to assume that training in a discipline will in itself automatically transfer the characteristic qualities of the discipline to the learner? Conceivably, the procedure used in the course may defeat the very purpose involved in requiring the student to take it. The student may listen to a series of informational lectures, followed by regurgitative recitations, and laboratory experiences of the cookbook-recipe type. The abilities fostered by such a series of experiences may have little relationship to logical thinking, if any. The student's learning activity will have consisted dominantly in the more or less imperfect memorization of the results of someone else's logical thinking, and he will have had little opportunity to engage in the process of logical thinking himself.

It will be necessary, therefore, to evaluate the nature of every given learning situation in order to discover ways in which it can best be organized and guided for the achievement of its purposes. This evaluation, in order to be effective, must be a continuing one, and not confined to a one-time investigation which is expected to set prescribed patterns of procedure. Such a continuing evaluation must be based on observation and study of the actual teaching and learning situation. Such observation is best done on the basis of co-operative intervisiting and co-operative planning on the part of professors interested in working together toward the improvement of their own procedures. When this is done in a spirit of mutual self-help, much can be done within given course organizations without the necessity of contemplating administrative changes. Even such an educational monstrosity as the regularly scheduled class of several hundred students meeting for a course in Current Economic Problems with one lone professor and a public-address system can be conducted in a manner that will extract the maximum good out of an admittedly bad situation. To give but one of many possible examples, instead of the professor confining his lecture to the "telling" type, he may base it on questions that have arisen from the students' reading of mimeographed material that he had assigned previously (the same material that would conventionally have formed the content of his lecture). He will seek ways, therefore, to activate the students' part in each class session. Ultimately, of course, any well-conceived process of continuing evaluation cannot fail to have administrative implications affecting such factors as class-size, for instance. It may very well be, too, that the conventional course concept of arbitrarily organizing learning experiences in neat packages of fifty minutes bound fore and aft by the sound of a bell and occurring at rigidly predetermined intervals will need some drastic modification.

ANOTHER problem that will need solution is the preparation of young college and university instructors beyond the stage of mastery of content and specialized research. Concern for the preparation for teaching of candidates for positions in colleges and universities is such a new phenomenon in higher education that there exist little precedent and little experience that can be relied on for

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Regional Graduate Education in the South[1]

The regional education program of the southern states has been rapidly taking form during the past two years. A report on its early progress in professional education—medicine, dentistry, and veterinary medicine—was presented in the March, 1950, issue of the JOURNAL OF HIGHER EDUCATION.[2] More recently, the interests of the Board have expanded to the various graduate fields, reaching an initial climax in a sizable conference on graduate study held at Daytona Beach, Florida, September 4–11, 1950. Two hundred educators, including representatives of various disciplines, deans, and presidents, and three governors spent the week together, working through the complexities of regional planning in graduate study and research. From September 4 to 7, members of the various faculties concentrated on six proposals for improving graduate education in the region. From September 9 to 11, presidents of the co-operating institutions reviewed the findings. Consultants and steering committees provided liaison between the two phases of the conference.

The conference divided into groups to study ways of using regional planning and arrangements in six broad areas in order to:

1. Extend graduate study and research through agreement of institutions to obtain additional funds for special graduate programs to serve more than a single state.
2. Use facilities and personnel available in non-school agencies to supplement those available on campuses for graduate study and research.
3. Extend governmental and industrial use of universities in research projects under contract.
4. Develop self-study programs in institutions as a means of improving graduate work.
5. Make available to other institutions, on request, special skills and facilities available at a single institution.
6. Encourage collaboration among institutions within a state or metropolitan area.

Three governors—Gordon Browning of Tennessee, Sidney McMath of Arkansas, and Fuller Warren of Florida—joined the educators and assured governmental support for their efforts to improve the level of graduate education through joint action. Their attitude was this: your recommendations heretofore have produced a regional program that is sound and is working; decide what can be done and should be done in the graduate field, and your proposals will have our support.

The conference produced valuable discussion and proposals on several projects of joint action. Perhaps the most far-reaching, and one that may take the longest for fulfillment, proposes the creation of specialized regional centers with programs of

[1] Reported by John E. Ivey, Jr., Director, Board of Control for Southern Regional Education.

[2] McGlothlin, William J., "The South Advances," pp. 113–20.

top quality in instruction and research. Such programs voluntarily strengthened by institutions would lead naturally to service in the region in that field. Undertaken in the light of joint planning—the knowledge of what other institutions were doing—it would contribute to the building across the region of a total program of greatly improved quality.

The dimensions of such a program also give leeway for co-operation among two or more institutions in the development of programs of excellence in specified fields. One conference group recommended ways by which colleges and universities could use off-campus facilities to strengthen graduate study and research. The Tennessee Valley Authority and Air University at Maxwell Field, Alabama, are actively developing programs to provide for such relationships. Another group strongly recommended joint action to strengthen the usefulness of southern institutions in meeting governmental and industrial research needs through contracts. It proposed creation of a regional office of research relations to collect information on institutional facilities and governmental and industrial needs.

A self-evaluation guide, the product of many months' work by many persons, was accepted as the basis on which graduate schools might study their facilities as a step toward identifying their strengths and planning improvements. The group commented: "Group IV believes that the Guide is now a usable instrument, that any graduate school wishing to improve its quality will be greatly aided by it, and that the publication of this guide may well become historically significant." It is possible, therefore, that a region-wide program of self-study by graduate schools may be in the making.

Other groups identified ways by which one institution could make its special services available to others in the region, and ways by which institutions in a small geographic area like a city or state, might develop joint curriculums, arrange common library services, and exchange faculty.

But the results of the conference, all of which will influence the development of the regional program, are not limited to the tangibles of reports. Immeasurable gain accrues from the experience of many educators from many institutions in several states, meeting with a joint purpose which allows for disagreement, debate, and compromise.

At the Board's annual meeting in Charleston, S. C., November 27, the proposals for extending the program into the graduate field were approved. Since then, steps to activate the program have been taken. In addition, a major project of the regional program has been the naming of a Defense Program committee of educators, representing all institutions in the fourteen compact states wishing to use its services. The committee will work to expedite effective relationships between federal agencies and institutions in the defense effort.

A Reading Laboratory at the College Level[1]

An attempt here is made to evaluate the materials and procedures employed in the Reading Laboratory at Western Michigan College by comparing the initial and final scores on

[1]Reported by Dorothy J. McGinnis, Associate Director, Psycho-Educational Clinic, Western Michigan College of Education.

the Iowa Silent Reading Test of 62 students enrolled in the Reading Laboratory. A further evaluation has been made by comparing test records of one control and two experimental groups. In equating the control and experimental groups the students making up these groups were matched as far as possible according to age, sex, intelligence, academic training, and ability in reading. Group A consisted of 20 students selected from the student body at large who have not had work in the Reading Laboratory and who have not been enrolled in the personal-orientation course known as Introduction to Learning and Adjustment. The subject-matter of this course consists of information on how to study and is presented entirely in formal lectures and class discussions. Group B consisted of 20 individuals who are actively engaged in the work of the Reading Laboratory. No one in the group is enrolled either in the course Introduction to Learning and Adjustment or is participating in any other remedial or corrective program. Group C consisted of 20 students enrolled only in the course Introduction to Learning and Adjustment. These students are not participating in the work of the Reading Laboratory. Further evaluation of materials and procedures employed in the Reading Laboratory has been attempted by determining whether or not there has been an increase in general intelligence as measured by the composite scores on the Ohio State Psychological Examination. The relationship between growth in reading and scholarship has not been evaluated. Neither has the relationship between growth in reading ability and achievement in other language skills been given attention. No consideration has been given to the relationship between growth in reading ability and personality change. This study is not concerned with the permanency with which certain abilities and skills are acquired by individuals participating in the experiment. Evaluation has been made only in terms of change as measured by the Iowa Silent Reading Test and by the Ohio State Psychological Examination.[2]

The data resulting from the administration of the Iowa Silent Reading Test to 62 students enrolled in the Reading Laboratory show a marked and statistically significant gain between the times of the initial and final testing. Marked variability is present in both the initial and final tests. Because of the fact that the correlation of the initial and final test scores is .88, it is reasonable to assume that those individuals who scored low on the initial test also scored low on the final test, and those who scored high on the initial test continued to score high on the final test. An actual study of individual test scores substantiates this inference.

The means of the initial and final scores on Test III of the Ohio State Psychological Examination for students making up the control and experimental groups are summarized as follows:

	Initial Test	Final Test	t
Group A	25.8	30.5	3.32
Group B	23.5	36.8	8.44
Group C	25.5	30.0	2.37

These figures show that the students in Group B, those doing work in the Reading Laboratory, made a marked and statistically significant gain between the times of the initial and final tests. The students in the

[2]In determining whether or not the differences between the experimental and control groups were significant, "t" was calculated for each difference.

control group (A) and students doing the work of the course Introduction to Learning and Adjustment did not make so significant a gain during the same period. Variability is apparent in each of the three groups.

In evaluating the materials and procedures used in the Reading Laboratory, an attempt has been made to evaluate the change in initial and final scores on the Ohio State Psychological Examination of students making up the control and experimental groups. The average scores of the three groups are as follows:

	Initial Score	Final Score	t
Group A	63.5	74.0	4.15
Group B	63.0	84.5	5.63
Group C	63.0	69.0	1.54

The students in the Reading Laboratory made a significant gain between the initial and final testing. Marked variability is present in Groups A, B, and C. Students enrolled in the course Introduction to Learning and Adjustment and a similar group of students selected from the campus at large did not make as significant a gain during the same period.

The following inferences and conclusions were drawn:

1. Individuals doing work in the Reading Laboratory made a statistically significant gain in reading ability as measured by the Iowa Silent Reading Test.
2. The experimental group of students doing work in the Reading Laboratory made a more significant gain in reading as measured by Test III of the Ohio State Psychological Examination than a similar group of students enrolled in the course Introduction to Learning and Adjustment, and a more significant gain than an equivalent control group of students selected from the student body at large.
3. The experimental group of students doing work in the Reading Laboratory made a more significant gain in general intelligence as measured by the Ohio State Psychological Examination than a similar group of students enrolled in the course Introduction to Learning and Adjustment, and a more significant gain than an equivalent control group of students selected from the student body at large.
4. The gains, as measured by the Iowa Silent Reading Test, are statistically more significant than those measured by Test III of the Ohio State Psychological Examination. This may be due to the fact that the Iowa Silent Reading Test measures reading abilities and skills actually emphasized in the corrective instruction provided in the Reading Laboratory; namely, sentence and paragraph reading, vocabulary, use of index, and poem study. The superior gains made by the students in the Reading Laboratory on the Iowa Silent Reading Test may also be due to the differences in the tests themselves, for the Iowa is a rate test while Test III of the Ohio State Psychological Examination is a power test.
5. The materials and procedures employed in the Reading Laboratory are far more effective in increasing the reading ability of students than the how-to-study course, Introduction to Learning and Adjustment.
6. Gains in reading ability are made by college students who are not members of the Reading Laboratory and who are not enrolled in the course Introduction to Learning and Adjustment. This gain may be due in part to familiarity with the test, to the greater realization of the importance of the score on the Ohio State Psychological Examination, to better testing conditions, or to increased reading ability resulting from regular college work.
7. Students enrolled in the course Introduction to Learning and Adjustment have not consistently made as great gains in reading ability or increased

their performance on the Ohio State Psychological Examination as much as a similar group of students selected from the student body at large. This may be due to the fact that Group A was made up of more students who had an opportunity to take the retest voluntarily.

8. It is reasonable to assume that the materials and procedures employed in the Reading Laboratory are of value in improving the reading ability of college students.

Paying the Non-academic Employees[1]

The majority of American colleges and universities have no definite program of wage and salary administration for non-academic employees, and as a consequence their wage structures are replete with inconsistencies. Differing rates are paid to employees performing the same work, through the operation of such factors as consideration of length of service, transfers of workers without rate adjustments, the absence of standard hiring rates, and the frequent practice of allowing department heads and various administrative officers to judge the value of each employee. In some instances flagrant favoritism is condoned.

Often there is no logical relationship between the rates for different occupations. With every flat percentage advance in wages the differentials are increased and the discriminations are emphasized. Further, the variety in rates for similar work in the same locality suggest the random manner in which much rate setting is done. How much is lost in the worker's efficiency because of these errors and accompanying grievances we shall never know. Just as important, however, is the loss of both self-respect and public confidence that an institution must suffer from careless and indifferent business management.

The resentment of employees over these injustices, the extension of wage negotiations through collective bargaining, and the realization that the compensation of labor, like other costs, should be dealt with systematically and honestly, are awakening an increasing number of college and university presidents to the need for rationalizing wage structures. Several institutions have appointed special officers or committees to work on personnel matters for non-academic employees.

The device being used for a more systematic evaluation of jobs and determination of rates is job analysis, which is indispensable to a complete program of wage and salary administration. College administrations that fail to make a thoroughgoing analysis of the rate differentials among occupations and jobs, reflecting the relative difficulty of the jobs, miss a chance to demonstrate their fairness to their employees and their competence in taking proper care of payroll expense. Then too, if rate differentials for the highly skilled jobs are inadequate, employees lack the incentive to train themselves for positions that require a relatively greater skill. There is always the worker's tendency to compare his rate of pay not only with that for similar work in his own place of employment, but also for similar work in other establishments; and this is likely to reveal glaring disparities and inconsistencies.

The frequent lack of policy as to the general relationship that the wage

[1]Reported by Forrest H. Kirkpatrick, Dean of Students, Bethany College.

rates should bear to the average rates of the labor market from which the employees come is borne out by numerous examples. For instance, in a college whose working force was in sixteen occupations, the rates of pay of four members averaged 6 cents per hour above the market rate for comparable work, three of the occupations were compensated at the market level, and the remainder received rates averaging considerably less. It is obvious that this college failed to keep the rates for their several occupations in proper alignment or in any consistent relationship with rates prevailing in the community.

The primary purpose of job analysis is to establish a basis for setting wage and salary schedules which will serve as a guide in keeping rates in mutual alignment and in satisfactory relationship with those paid in other companies obtaining labor from the same source. Job analysis consists of three elements: description of the nature of the job; appraisal of its relative importance and difficulty; and setting an appropriate rate or rate range for the job. This means that the emphasis of the analysis is on the work performed rather than on the individual to whom the work is assigned. Job analysis may be utilized to establish rates for employees paid on an hourly basis and also for the salaried groups, such as clerical and supervisory employees, but it becomes inapplicable when the work performed cannot readily be analyzed apart from the individuals who do it, as is frequently the case with academic or research posts.

The proper use of job analysis gives the college administrator the information necessary to answer the following questions:

What is the nature of each job? What duties are performed? What are the special requirements? What training or skills are needed?

How do the jobs compare in importance, difficulty, and scope of responsibility? On what is the decision as to relative importance based?

Are the wage rates of the various jobs related satisfactorily to the difficulty of the work and the special requirements?

How does the general scale of wage rates paid compare with that prevailing in other colleges and with that prevailing in the labor market from which the employees are drawn?

In addition to its direct objectives, the process of job analysis may be of considerable value to management by virtue of certain important by-products: it provides hiring specifications, makes possible better adaptation of the worker to the requirements of the job, clarifies the duties and responsibilities of each job, outlines what must be included in training for it, and may define promotional steps.

Since such factors as the skill and degree of responsibility involved in a particular job do not lend themselves to precise measurement, it is clear that they cannot be appraised with exactness. Consequently, job analysis should never be considered or defended as a precise, infallible method of measurement. It should be viewed as a personnel procedure for setting base rates in a manner sufficiently careful and systematic to make for sound relations between the college or university and its non-academic employees. Job analysis must be considered important not as an end in itself but as one phase of a larger program.

The guiding principles on which a college or university might base a comprehensive program of wage

administration are:

1. The grade of labor best adapted for each kind of work to be performed should be clearly specified. These labor specifications, providing the basis for the proper selection of employees, would be comparable to purchase specifications for material. They represent a by-product of the job-analysis procedure.
2. The wage rates and salaries of the various jobs and occupations should be placed in proper alignment with one another according to the difficulty and scope of responsibility of each job. Whatever procedure is employed will have the following main divisions: definition of each job title, evaluation of the relative difficulty of the various jobs, grouping the jobs in grades, discovery of the rates prevailing in the labor market from which the employees are drawn, and determination of the rate or rate change for each job and occupation.
3. The general level of rates paid should be kept in satisfactory relation to the rates paid in the same community or area. To apply this rule, a rate survey will ordinarily be needed to determine the rates being paid for comparable occupations. Such a survey must be based not upon job titles but upon carefully drawn descriptions of the kind of work performed.
4. Rates and salaries should reflect an employee's contribution to the college or university program rather than his length of service or his state of need. To apply this principle to the fullest extent, output standards should be set by time study for work that is sufficiently repetitive. Output standards permit the use of financial incentives, under which the pay is directly contingent on measurable performance, to supplement base rates that reflect such imponderables as skill and responsibility.
5. Promotion of each individual should be given systematic attention by the personnel officer or committee. The workers should realize that their abilities and performance are being watched so that exceptional work may be rewarded by such increases as are possible within the rate or salary range for the particular occupation and by advancement to work requiring greater skill and responsibility. This means a periodic review of each individual's performance at least once a year.
6. The college should maintain control of its labor costs by comparing actual costs with those budgeted or by measuring the actual efficiency of departments and individuals against performance standards representing what good management might reasonably expect. The wage schedule aids in controlling labor costs by keeping the rates of individual employees within the range established for each kind of work.

The annual survey of college and university enrollments made by the United States Office of Education shows a total enrollment in all types of institutions during 1950 of 2,295,000, as compared with 2,456,000 in the fall of 1949. The decline is due largely to the 33-per cent decrease in the number of veterans attending higher institutions, and in some part to the 7-per cent decrease in the number of students entering college for the first time. The greatest losses in enrollment were reported by liberal-arts colleges (8.6 per cent); next, in order, by independent professional schools (8.6 per cent), universities (7.8 per cent), junior colleges (4.8 per cent), independent technical schools (2.1 per cent), and teachers' colleges (1.5 per cent). Independent theological seminaries were the only institutions showing an over-all increase.

·The·Reporter·

THE fourth session of the Mount Holyoke Institute on the United Nations will be held from June 24 to July 21. The Institute is under the sponsorship of the Carnegie Endowment for International Peace, the Foreign Policy Association, the Woodrow Wilson Foundation, the World Peace Foundation, and the following New England colleges and universities: Amherst, Bowdoin, Brown, Clark, Connecticut College, Mount Holyoke, Smith, Springfield, Trinity, University of Massachusetts, Wellesley, Wesleyan, Wheaton, and Williams. The program will deal with the crucial world problems confronting the United States and the United Nations today.

Fees last year were $60 a week, or $230 for the entire session. It is hoped that they can be kept approximately the same in 1951. A few tuition scholarships will be available. Communications should be addressed to: Executive Secretary, Mount Holyoke Institute on the United Nations, South Hadley, Massachusetts.

THE College of Puget Sound will sponsor an international summer study session on the campus of the Union School of the Methodist Church in Scandinavia, Gothenburg, Sweden. The course will begin July 20 and end on August 25, 1951. The teaching staff will include both American and Scandinavian instructors. Classes will be offered in liberal arts, education, and theology, and will be conducted on a workshop basis. English will be the medium of instruction. A total of six semester-hours may be earned on satisfactory completion of the full program of three courses. Transcripts will be issued by the College of Puget Sound. About one hundred students will be accepted; junior standing is required. Tuition, room and board, and all school charges will amount to about $200. This fee is to be paid to the College of Puget Sound upon the student's acceptance for admission. Each student must arrange for his own transportation to and from Gothenburg. Youth Argosy, a non-profit agency, will handle travel arrangements and make possible student rates.

Some of the special summer features at the Union School include guided trips to local points of interest. One evening a week will be set aside for social fellowship with the Scandinavian hosts and colleagues. Opportunity will be given to observe and to participate in the work of the local churches and religious organizations, and to meet with leaders in the fields of religion, education, and social work. For further information, address Summer Session in Gothenburg, College of Puget Sound, Tacoma 6, Washington.

THE degree of Bachelor of General Education is now offered by the University of Omaha through its School of Adult Education. This degree program, which is designed for adult and mature students whose college education has been inter-

rupted, requires the completion of 125 semester-hours of college work, of which the last twenty-four must be in the School of Adult Education. Requirements concerning core courses and areas of concentration are flexible enough to meet the needs of the mature student.

THE greatly increased use of maps in classroom teaching has led to the establishment at Yale University of a Cartography Laboratory, one of the few of its kind in United States educational institutions. Its function will be to compile and prepare maps, charts, graphs, and diagrams for the use of the faculty and departments of the University.

WITH the passage of a three-million-dollar bond issue, Compton College is making plans for a new campus. The present one is to be used to house a senior high school. Compton, which has been a four-year institution since its founding in 1927, by action of the Board of Trustees last year became a junior college.

TO AID in the early detection of hearing deficiencies in young children, a new device has been assembled in research laboratories of the University of Pennsylvania and is being successfully employed in the University's new Hearing Center. Early diagnosis of hearing deficiencies will make it possible for physicians to institute promptly courses of corrective treatment and educational programs.

EDUCATIONAL problems connected with the admission and preparation of pre-medical students were discussed at the First National Conference on Pre-medical Education held at Lake Placid, October 21–22. More than one hundred twenty-five pre-medical educators and about fifty medical educators participated in the two-day program sponsored by Alpha Epsilon Delta, national pre-medical honor society, in co-operation with the Association of Medical Colleges.

THE University of the Ryukyus, which opened this year, is the first university established in the Islands. It will supplement the three normal schools previously established. One of the major departments is the Department of Agriculture with its associated experimental farm. The University will serve the 975,000 inhabitants of the one hundred islands which make up the Ryukyuan chain.

THE new liberal-arts college of the State University of New York in Broome County will be given the name of Harpur College, in memory of Robert Harpur, an outstanding educator and statesman in New York during the revolutionary period.

AT THE fall conference, the Association of Urban Universities approved the general resolutions adopted at the Conference on Higher Education in the National Service last October urging that loans to educational institutions for residence construction be made available, and the recommendations for the deferment of students made by the Committee on Federal Relationships of the American Council on Education.

A PLAN for the exchange of teachers has been approved at Wayne Univer-

sity under which a faculty member who holds a continuing contract and has been employed for at least five years may be assigned for a period not to exceed one year to teach in another state or a foreign country in exchange for the services of a teacher from the same area. In the event the number requesting exchange teaching service exceeds two per cent of the University faculty, selections will be based on the probable value to the University of the proposed exchange, the length of time since the teacher's last exchange service, and his seniority. A faculty member engaged in exchange teaching will be paid his regular salary and will be entitled to participate in all benefits provided for teachers under the regulations of the Detroit Board of Education. Upon return he will be restored to his former teaching position.

In order to strengthen the agricultural economy of Europe, the Economic Co-operation Administration (ECA) has established a new educational program to help Marshall Plan countries improve their advisory and educational services to farmers. The program was initiated upon the recommendation of a committee of European and United States agricultural-extension specialists. Luther M. Brannon, assistant director of the Oklahoma Agricultural Extension Service, will head the newly established branch in ECA'S Paris office.

An anonymous gift of $1,000,000 for the advancement of research in the humanities has been received by Yale University. In accordance with the wishes of the donor, the money will be used to assist younger members of the faculty to establish themselves as productive scholars at a period in their careers when so much of their time and energy is required for teaching. The fields of study included in the terms of the gift are literature, history, philosophy, the fine arts, music, and the like. Fellowships will be granted to instructors and assistant professors at Yale who show unusual promise as teachers and scholars. Fellowship holders will be granted a year's leave of absence at regular pay.

The Signal Corps Engineering Laboratories and the Signal Schools comprising the Signal Center at Fort Monmouth, New Jersey, have over seven hundred vacancies for civilians who can qualify as instructors, technical writers, and professional engineers in the field of communications and electronics. Since these positions must be filled as soon as possible, applications will be accepted from either veterans or non-veterans, regardless of whether the applicants have taken civil-service examinations. The salaries range from $3,825 to $6,400 a year. Other job openings at Fort Monmouth include: physicist, mechanical engineer, photographic engineer, and engineering draftsman at salaries ranging from $2,650 to $5,400.

In a successful attempt to make the transition from classroom to employment less abrupt, an on-the-job training program for a selected group of Occidental College Seniors is now in its fifth year. The program is under the direction of a faculty committee of eight members.

·Editorial·Comments·

Another Proposal concerning Military Service

IN THE December JOURNAL we summarized and commented on the recommendations concerning the training and utilization of scientific, professional, and specialized personnel made to the Director of Selective Service by six scientific advisory committees. On December 15, the United States Office of Education released recommendations which it has submitted to the Director following several months of study by the staff of the Office.

Like the plan of the six committees, this one is a carefully thought-through attempt to meet the needs of both the armed services and the civilian economy, with particular reference to the need for professional and specialized personnel. This plan provides that there be no exemptions of students from military service, but that postponements of induction may be made "for educational purposes in the national interest." All males on reaching induction age would become eligible for induction, and would continue eligible through the age of twenty-six. In each class graduating from high school "there should be identified a quota of males otherwise eligible for induction who, on the basis of their probable superior college potential and their consequent probable future contribution to the Nation's essential needs, should be permitted to pursue a college education prior to induction. . . . The quota fixed should be sufficient to provide a minimum supply of men trained in all fields essential to the national interest." Initial eligibility for postponement would "rest upon demonstrated abilities . . . to do better than average college work." No recommendation is made as to the particular method of making the selection, but the need for frequent review is pointed out.

The authors recommend that an initial quota of one hundred thousand deferred students be allotted among the states on the basis of population, the number of high-school graduates, or both. These students would be permitted to pursue whatever undergraduate courses they chose in institutions of their own choice. Continuation of postponement would be "contingent upon acceptable academic performance"; presumably, this means that the student would be required to meet only the minimum standards of the institution in which he was enrolled. On the undergraduate level, postponement would not be continued for a longer time than that "normally required to complete the first degree in the field in which the student is studying." Any student pursuing satisfactorily a full-time college program would be permitted to complete the academic year in which he becomes eligible for induction. Postponement for students in college when the plan went into effect would be based on "selection processes essentially similar to those recommended for use with high school

seniors" except that a student doing satisfactory college work and within twelve months of graduation would be permitted one year to complete his studies.

So much for the recommendations concerning undergraduates. The postponement of induction for graduate and professional students "should be on the basis of clearly demonstrated abilities and promise in fields of study where completion of training at an advanced level will prepare the student for military or nonmilitary service" in essential fields. The authors of the plan do not attempt to define the fields of study essential to the national interest, but would place the responsibility for doing so on the national manpower agency.

THIS plan invites comparison with that proposed by the Scientific Advisory Committees. There are important differences. The Office of Education would make a rigorous selection of outstanding persons at the time of graduation from high school and would postpone induction of each of these for the time normally required to get the first degree, provided he continued to meet the minimum standards of the institution in which he was enrolled. The advisory committees would defer all high-school graduates who had been accepted by a recognized institution but would continue selection through the student's college career; only a student ranking in the upper part of his classes would be eligible for continued postponement. College officials have objected to this proposal of the committees, since it would require them to rank students within their respective classes; the Office of Education plan would avoid this particular difficulty. The advisory committees assert that it is impossible to distinguish between fields essential and nonessential to the national welfare. The Office of Education assumes that it is possible and desirable to do this, and would place on the Federal manpower agency the duty of defining essential fields.

The similarities between the two plans are probably more significant than the differences. Both represent attempts by educators to meet both the immediate and the long-range needs of the nation. Neither exempts college students from military service; both provide for the deferment, not of all students, but of those of superior promise. Both call for a system of Federal scholarships in order that the potential ability in the nation's youth may be properly developed and mobilized.

The manpower problem is exceedingly complex and difficult, and this writer professes no special competence with respect to it. To his inexpert eyes, each of the plans seems to have some advantages and some disadvantages by comparison with the other. On one point there can be no disagreement: there is need for the early adoption of a plan that will meet the military needs of the country with the least damage to the economy and to the long-range interests of the nation. A number of plans have been proposed—by the Scientific Advisory Committees, the Office of Education, Presidents Conant and Cole, and others. It would seem that if a small group, consisting of the authors of the different plans, the Assistant Secretary of Defense

[*Continued on page 114*]

··Reviews··

Rich Content

GOALS FOR AMERICAN EDUCATION, *edited by Lyman Bryson, Louis Finkelstein, and R. M. MacIver.* New York: Harper and Brothers, 1950. xiv+555 pp. $5.00.

The papers comprising this symposium were prepared for the ninth meeting of the Conference on Science, Philosophy and Religion in Their Relation to the Democratic Way of Life, which was held in New York in September, 1948. Included with the more formal papers are many of the comments made by participants in the meeting during the lively discussions that characterized this significant gathering. All told, the volume contains contributions from 52 persons—a veritable cross section of that portion of the American people who might be expected to display a constructive interest in its theme.

Among the contributors one recognizes the names of many of the outstanding leaders of American thought, whose words of wisdom have often pointed the way toward clearer understanding of the contemporary scene and action well designed to increase the welfare of humanity. In this instance all have concentrated their attention upon the many knotty problems of American education, above the secondary-school level, in the midst of the rapidly changing world in which we find ourselves today. As one might well expect, there is considerable disagreement among the experts. Indeed, the give and take of the free-for-all discussions is one of the most valuable assets of the book, as it indeed must have been of the meeting organized with the specific intent to make such discussion possible.

The brief space available for this review makes it impossible to do justice to the many authors, but such topics as "Higher Education and the Unity of Knowledge," "Education and One World," "The Function of the University in a Free Society," and "Education as Experiment," are indicative of its rich content and broad scope. The excellent index will guide the reader to the particular aspect of the wide field in which he may at the moment be especially interested, and one can guarantee that he will be well rewarded for his search.

KIRTLEY F. MATHER
Harvard University

A Worth-while Biography

THE WOMAN WHO RANG THE BELL: THE STORY OF CORNELIA PHILLIPS SPENCER, *by Phillips Russell.* Chapel Hill, North Carolina: University of North Carolina Press, 1949. xi+293 pp. $5.00.

He who reads this biography can well understand how its subject could be characterized by Zebulon B. Vance, twice governor of North Carolina, as "the smartest women in the State, yes, and the smartest man too" (page 20). Nurtured in the atmosphere of North Carolina University during the nineteenth century, when many factors made it difficult for women to become influential, she nevertheless affected profoundly the actions of educators and political leaders.

This influence was most pronounced in connection with the rehabilitation of the University of North Carolina, where Mrs. Spencer's father had been a professor for many years. The Civil War era had subjected the University to a severe test; the attempts of radical Republicans to change its personnel and policies during the Reconstruction period resulted in the closing of the institution in 1870. Through personal letters to prominent men and through editorials and articles in newspapers, Mrs. Spencer did much to weaken the University while it was under radical control; by the same methods, she led the fight to reopen it, after the Holden régime had closed its doors in 1870. Five years later this fight was crowned with success, whereupon the subject of this

biography climbed to the belfry and rang the college bell.

Mrs. Spencer's diaries, essays, and letters—prolific sources used by the author—reveal her as a woman of profound intellect, serious meditation, and deep human sympathy. Much writing and wide reading and numerous social contacts seemed significant factors in overcoming that adversity which often came her way.

Further, the biography is an excellent treatise upon the social customs and habits in a university environment undergoing many changes. Intimate touches of the tragedy through which the South passed during the Civil War and Reconstruction period are given in vivid fashion. At the celebration of its hundredth year, the University of North Carolina awarded to its devoted feminine champion an honorary degree, the first ever awarded to a woman. Both at Chapel Hill and at the normal college for women at Greensboro, Mrs. Spencer's fight for greater educational opportunities for women is symbolized by buildings named for her.

Mr. Russell has written an interesting and very worth-while biography. Pertinent illustrations are an added attraction. There are, perhaps, too many long quotations. The statement that Reconstruction "overthrew the long political dominance of the Whig Party" in North Carolina (page 105) is difficult to reconcile with the one that "for the decade before the Civil War the Democrats were in control of North Carolina's government" (page 106).

HENRY H. SIMMS
Ohio State University

Deserves to Be Widely Read

BRITISH BROADCASTING: A STUDY IN MONOPOLY, *by R. H. Coase.* Cambridge, Massachusetts: Harvard University Press, 1950. ix+206 pp. $2.75.

The subtitle describes accurately the scope and intent of this interesting work. It is not primarily a historical study of the British Broadcasting Corporation, though much historical material is adduced as evidence. It is more in the nature of a political tract, though written with more restraint, objectivity, and, one may add, a great deal more wit than is customary with such documents. Although it does not present any definite "conclusions," the inferences which the author expects the reader to draw from the material presented are pretty clear, and the point of view of the author himself, who is Reader of Economics at the University of London, is apparent in the selection of material and in almost every turn of phrase. This point of view is that of the Manchester liberal—that monopoly is an evil in itself, to be tolerated only when the case for it is overwhelming, and that the case for the monopoly of British broadcasting enjoyed by the British Broadcasting Corporation, though good, is by no means overwhelming. The book is of particular interest to American readers because the treatment of broadcasting, more, perhaps, than any other matter of high policy, expresses the basic differences in social philosophy between America and Britain The continued support which the B.B.C. enjoys in Britain is a striking testimony to the extent to which Britain is still a paternalistic, ruling-class society. Not even Mr. Coase can bring himself to support the horrors of the American broadcasting system, and he is careful to point out that much support for the B.B.C. comes from the belief that the only alternative is a sponsored commercial broadcasting, and that this belief is unjustified. Nevertheless, it is instructive to the American reader (and particularly entertaining to one, like the present reviewer, who is an ex-Englishman) to watch Mr. Coase making deft breaches in the armor of British complacency with the "best broadcasting system in the world."

Mr. Coase supports his implicit case with a vast array of quotations from official documents and authoritative sources of public opinion, one of which I cannot refrain from quoting. It is an editorial in the London *Times* on the subject of the possible threat to the broadcasting monopoly coming from the "Relay," or wire, broadcasting systems.

What is certain about the relay system is

that, under present conditions, it will spread widely and rapidly among the poorer classes of the population; and this country will not for long be able to congratulate itself on a broadcasting system under which, while broadcasting is controlled with enlightenment and impartiality by a responsible public corporation, the listening is controlled by Tom, Dick, and Harry (page 95).

One suspects an undercurrent of sympathy for Tom, Dick, and Harry in Mr. Coase's book, as against the enlightenment, impartiality, and responsibility of a state-supported monopoly, no matter how benevolent, a sympathy that many of us in this land of Tom, Dick, and Harry will share.

The book is very well written; I found it difficult to put down, and it deserves to be read widely on both sides of the Atlantic.

K. E. Boulding
University of Michigan

Perspective—Scientific Humanism

World Philosophy: a Search for a Synthesis, *by Oliver L. Reiser.* Pittsburgh, Pennsylvania: University of Pittsburgh Press, 1948. ix+127 pp. $2.50.

In the presence of the world confusion which prevails at present, the pressing need of man is to find a formula for co-operation in peace. The author sets himself the task of outlining a synthesis, physical, biological, psychological, and social. The perspective is that of scientific humanism. From the study of science man may gain his best understanding of the structure of nature and human nature, and the meaning of human life as lived in the setting we discover. The problem of co-operative living is not to be solved by the thinking of any one person. It is a thoroughly democratic process, contributing to and drawing from a collective pool of knowledge. To this, all peoples of the earth are invited to contribute.

The first fact that must be reckoned with is cultural diversity. This has its value and its danger. Its value lies in the preservation of individuality; its danger is its tendency toward conflict, at present, between economic systems, religious points of view, classes within a single country, rationalism and authoritarianism, Orient and Occident. The problem is as old as Socrates, whose aim was inductively to bring unity out of plurality of opinion. Science is the great instrument; but it needs to be inspired with other than impersonal motives. There is need of an international institute of scientific humanism, a new social institution which will unify, codify, and popularize the universal principles of planetary civilization (page 40). There is necessary a semantic basis of world unity, a common culture pattern to give meaning and purpose to life. Language is the medium for inheritance of human institutions, the bank of human knowledge (page 50). The implication (not clearly stated) seems to be that language must become the great instrument of mutual understanding and synthesis (the core of future education?). The language of art is especially important. Combined with social creativity, it must produce a new ethic and a new religion.

Albert E. Avey
Ohio State University

A Misleading Title

The Modern University, *edited by Margaret Clapp.* Ithaca, New York: Cornell University Press, 1950. x+115 pp. $2.50.

This material has utility in helping to supply perspective on the current university scene; but surely the title promises too much, since these are three historical addresses plus an interpretative essay by the editor. President Clapp's own words supply an accurate description of scope and purpose. She says that together these papers

> trace the development through the nineteenth century and into the twentieth century of the new functions of universities and of new and old ideas concerning the proper role of universities. They point out the conflict of concepts within and between generations and countries, the victories and compromises of the nineteenth century that determined the nature of early twentieth century universities and the problems that remain with us today.

The historical essays consider continental Europe, the English university of the nineteenth century, and the American university developments in the same century. In the concluding paper, President Clapp makes reference to four categories, "learning power, teaching power, research power, purchasing power." She points out that all these have been perennial problems but affirms the needs and urgencies of fresh approaches today. A book living up to the promise of the title would have started where this one leaves off—especially since, despite historic experience, one has to recognize so many completely novel factors confronting today's university.

ORDWAY TEAD
Chairman, Board of Higher Education, New York City

A Highly Valuable Book

DEMOCRACY'S COLLEGE: HIGHER EDUCATION IN THE LOCAL COMMUNITY, *by John S. Diekhoff*. New York: Harper and Brothers, 1950. xiv+208 pp. $2.50.

What we have before us in our colleges is a problem of mass education. . . . It is a production job. It is not only advisable that we apply to that job some of the . . . peculiarly American techniques of mass production; it is essential (page 59).

So Mr. Diekhoff tells us in the most interesting paragraph of a highly valuable book. He is too earnest to worry about fashionable attitudes, too realistic to worry about traditional ones. Instead he looks at the problem clear-sightedly, and provides an answer that will make sense to most educators who have not got metaphorical dust of one kind or another in their eyes.

He suggests, for instance, applying the technique of job analysis to the professor's job. It is a technique of mass production long familiar in other kinds of work. After the job has been analyzed, another even more familiar principle of mass production can be applied: that of division of labor. Parts can be performed by specialists; testing and marking, for example. Simple and routine parts can be assigned to assistants. This leaves the teacher free for the "heartwork."

What Mr. Diekhoff advocates seems not only sensible but also very likely to occur. Equally as likely to occur, however, is an ancillary development of mass production and the economic orientation of life that is just as unfashionable and untraditional in the teaching profession: unionization. This, curiously, Mr. Diekhoff does not even mention, though it might solve some of his problems.

A good part of the rest of the book the author devotes to the dangers of state, and especially federal, control of education. There are such dangers, true; perhaps they are more terrifying to city and community colleges than to others.

Other sections describe and analyze the operations and functions of American community colleges. The book as a whole is informed, intelligent, and memorable.

ARTHUR M. COON
Penn Yan, New York

Illiteracy at the University Level

EUGENE R. PURPUS

[*Continued from page 74*]

one in which each individual would have a more comprehensive understanding of the business of living. It may take several years to recondition our society to understand the absolute importance of learning to read and write effectively. It may take even longer for us to become reaccustomed to the fact that a child can and should be able in twelve years of formal education to develop at least a working understanding of the basic fields of human knowledge. It will certainly take many years to offset the rather general prejudice against anything which was done or thought or felt before the particular year in which the student is confronted with its existence. And it may take even

longer to restore respect for exactness, precision, discipline, and organization in the use of the language. But worth-while things are often much harder to gain than to lose. Perhaps, then, we should put off for the moment worrying about the relatively trifling problem of statistical illiteracy and begin to worry about the alarming problem of practical and real illiteracy in its fuller sense.

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Technology in British Universities

J. F. BAKER

(*Continued from page 86*)

time-lag which exists between the creation of new knowledge and its application in industry.

Active steps are, therefore, being taken in a number of universities to correct this shortcoming. The policy being followed is to encourage certain university departments, the staffs of which are actively engaged in furthering knowledge in particular fields, to pass on that knowledge through courses of postgraduate instruction. It is hoped that a man taking one of these courses will have behind him not only his graduate appenticeship but a few years' industrial experience which will have concentrated his attention on some particular field of technology. He will choose that university which has active research in progress in that field and there he will return for a year, not to do research but to attend lectures, to read under the supervision of experts, to engage in laboratory work under conditions not generally available in industry, and above all to master the difficult art of applying science for the good of mankind.

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The East-West Philosophers Conference

NEAL W. KLAUSNER

[*Continued from page 89*]

general consensus seems to be that there is something in each of these suggested contrasts if they are not pressed too far or regarded as more than dominant tendencies. It also seems to be generally agreed that they should be analyzed on the supposition that East and West can be found in the main to complement rather than to contradict each other's methodologies, but that points of possible conflict should be frankly faced.

The report of the Seminar in Comparative Ethics and Social Philosophy contains the statement that

> no basic and consistent East-West cleavage was discovered in moral doctrine and ethical theory. Differences in emphasis and in the ordering or ranking of values were often evident.

It must not be thought that these reports represent final conclusions accepted by everyone. They are simply summaries of the work done and include the areas of disagreement as well as agreement. Each report was read and subjected to further scrutiny before a general session.

I cannot close this account without remarking on the hospitality and generosity of the University of Hawaii, its administrative officers, secretaries, and teaching staff. Everyone seemed eager to be friendly and to make our work successful and our visit pleasant. There was a sincerity and genuineness about our welcome

that never wavered even when taking care of us must have cost a good deal in labor and patience. The geographical appropriateness of the university for an East-West conference is matched by its magnificent spirit and complete willingness to do everything to make a real meeting of minds possible. [Vol. XXII, No. 2]

The Madness of Method in Higher Education

HERBERT SCHUELER

[*Continued from page 96*]

guidance.[1] At the very least, however, this preparation requires some seminar experience in the problems of university and college teaching, accompanied by observation and apprentice teaching under the guidance of the best teachers among the faculties of our institutions. In addition, the beginner in his first position as a college teacher should be aided by constructive supervision and the freedom to observe others. The brand new Ph.D., fresh from his triumphant preoccupation with the writing of a thesis may be pardoned for being bewildered in finding his studies culminating in the responsibility of teaching four sections of freshman composition, the guidance of which no part of his professional "preparation" even remotely touched. That he usually finds refuge in the way of greatest convenience is understandable but cannot be condoned. It is time we paid some attention to his preparation for teaching. This preparation need in no way compromise his thorough preparation as a scholar.

If there is one dominant objective that should guide the development of sound methods of higher education, it is to foster and make fruitful the meeting of minds. Hastings Rashdall said it best in the Epilogue to his monumental *The Universities of Europe in the Middle Ages:*

> The two most essential functions which a true university has to perform . . . are to make possible the life of study, whether for a few years or during a whole career, and to bring together during that period, face to face in living intercourse, teacher and teacher, teacher and student, student and student.[2]

To find ways to further this living intercourse of minds, and to develop the will and the power to engage in such interchange of ideas, is the great task that concerns not only the "what" but the "how," the "who," and the "whom" of higher education. To neglect one means to weaken all the others. It is time, therefore, that we became concerned with method.

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[1] In an article entitled "The Professional Preparation of the College Teacher," Paul Klapper makes some promising proposals which are now being carried out with a group of University Fellows at the University of Chicago. [*Journal of General Education*, III (July, 1949), pp. 228–44].

Another Proposal concerning Military Service

[*Continued from page 108*]

for Manpower, the Director of Selective Service, appropriate members of the Senate and House of Representatives, and other suitable persons were to meet, they could in a few days work out a plan that would best meet the situation and command general support. We have had enough proposals; the time has come to agree on a plan and put it into effect. Longer delay will be harmful, not only to the nation, but to the colleges and to those eligible for induction.

R. H. E.

[2] Oxford: Clarendon Press, 1946. Vol. III, p. 463.